

VII. *On Additions to the Atlantic Coleoptera.* By T.
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IN the following Paper I propose to notice such additions to the 'Coleoptera Atlantidum' as have been brought to light (since the publication of that volume in 1865) up to the present date, *i. e.*, to the close of 1870; and I would also take advantage of the opportunity thus afforded, to give such corrections in the general nomenclature as may seem desirable, as well as to add occasional items of information (lately gleaned) when appearing of sufficient interest to be worth placing upon record. A few remarks, indeed, of that particular kind, together with the diagnosis of *four* actual novelties to the catalogue, formed the subject-matter of a short Appendix to my 'Coleoptera Hesperidum' in 1867; and these, therefore, I must, however briefly, recapitulate, in order that the present memoir may include every correction and addition which it is necessary to take account of (so far, at least, as I am aware) since the 'Coleoptera Atlantidum' made its appearance.

The number of additions to the *combined fauna* of the three archipelagos (namely, the Madeiras, Salvages, and Canaries,) which I am enabled to record in this Paper is exactly thirty-three; but as two *supposed* species have been expunged from the Madeirian list,* the 1449 species which were cited in the 'Coleoptera Atlantidum,' will be increased to 1480. The thirty-three accessions to the general catalogue are as follows:—

	Madeiras.	Canaries.
<i>Stenolophus exiguus</i> , Dej.	X	
<i>Trechus debilis</i> , W.	X	
<i>Scutopterus imbricatus</i> , W.	X	
<i>Eunectes helvolus</i> , Kl.	X	
<i>Ochthebius algicola</i> , W.	X	
<i>Philhydrus maritimus</i> , Th.		X
<i>Acrotrichis brevicornis</i> , Mots.	X	
——— <i>ovatula</i> , Mots.	X	
<i>Tarphius lutulentus</i> , W.	X	
<i>Meligethes Ryei</i> , W.		X
<i>Læmophlæus suffusus</i> , W.	X	

* The two species which have been suppressed in the Madeirian list are *Trechus quadricollis* and *Tarphius Wolffii*.

	Madeiras.	Canaries.
<i>Cryptophagus pilosus</i> , Gyll.	X	
<i>Corticaria ciliata</i> , Mots.	X	
———— <i>transversalis</i> , Gyll.	X	
<i>Latridius nodifer</i> , Westw.	X	
———— <i>Watsoni</i> , W.	X	
<i>Hoplia Peronii</i> , Blanch.		X
<i>Trichius fortunatarum</i> , Blanch.		X
<i>Anobium nitidulum</i> , W.	X	
<i>Caulotrumpis pyricollis</i> , W.	X	
<i>Phytonomus variabilis</i> , Hbst.	X	X
<i>Atlantis luripotens</i> , W.	X	
<i>Scymnus epistemoides</i> , W.	X	
<i>Cephennium mycetæoides</i> , W.	X	
———— <i>australe</i> , W.	X	
<i>Pselaphus minyops</i> , W.	X	
<i>Falagria longipes</i> , W.	X	
<i>Homalota Sharpiana</i> , W.	X	
<i>Placusa infima</i> , Erich.	X	
<i>Aleochara clavicornis</i> , Redt.	X	
<i>Oligota ruficornis</i> , Sharp	X	
<i>Lithocharis ripicola</i> , Kraatz	X	
<i>Homalium concinnum</i> , Msh.	X	

The sixteen which are *italicized* I have treated as new to science, though at least *one* of them (if not more), namely the *Latridius Watsoni*, is in all probability a mere accidental importation (through the medium of commerce) from some other country. Two, however, out of the thirty-three, namely *Phytonomus variabilis* and *Atlantis luripotens*, are simply *reinstated*, having originally been admitted by myself as distinct species, but afterwards suppressed.

According to the most recent calculations (as now ascertained), the 1480 species which have hitherto been brought to light in these particular Atlantic archipelagos, are distributed thus:—

Madeiras.....	694	} †
Salvages	27	
Canaries.....	1013	

As regards the ascertained faunas of the separate islands themselves, the following Table will show to what

† The numbers formerly recorded, were—for the Madeiras, 664; the Salvages, 24; the Canaries, 1008.

extent they have been increased since the 'Coleoptera Atlantidum' made its appearance (in 1865).

	Old No.	Additions.	New No.
Madeira proper . . .	598	32-2*	628
Porto Santo . . .	160	3	163
3 Desertas . . .	87	2	89
2 Salvages . . .	24	3	27
Lanzarote . . .	277	2	279
Fuerteventura . . .	261	2	263
Grand Canary . . .	341	1	342
Teneriffe . . .	578	4	582
Gomera . . .	396	1	397
Palma . . .	258	1	259
Hierro . . .	224	1	225

Besides, however, the thirty-three actual *additions* to the general catalogue, recorded above, there are ten species which were well known in the Atlantic list, but which have recently been detected on islands *different from those* which were cited as their *habitats* in the 'Coleoptera Atlantidum.' These ten *local* accessions may (as regard their newly-ascertained islands *only*) be thus tabulated:—

	Mad.	Po. So.	Des.	Salv.	Lanz.	Fuert.	G. Can.	Ten.	Gom.	Palm.	Hierro.
Ochthebius subpictus, W.	X	-	-	-	-	-	-	-	-	-	-
Philhydrus politus, Küst.	X	-	-	-	-	-	-	-	-	-	-
Aerotrachis nigricornis, Mots.	-	-	X	-	-	-	-	-	-	-	-
Attalus rugosus, W.	-	X	-	-	-	-	-	-	-	-	-
Pecteropus rostratus, W.	X	-	-	-	-	-	-	-	-	-	-
Dasytes illustris, W.	-	-	-	X	-	-	-	-	-	-	-
Phytonomus murinus, F.	-	-	-	-	X	X	X	X	-	X	X
Coccinella mutabilis, Scr.	-	-	-	X	-	-	-	-	-	-	-
—— 7-punctata, L.	-	-	-	X	-	-	-	-	-	-	-
Phloeopora reptans, Grav.	X	-	-	-	-	-	-	-	-	-	-

It only remains now to remark, as indeed will be gathered from the present paper, that (for the various rea-

* Vide foot-note on p. 1.

sons given *in situ*) the *titles* of certain species have to be altered. And, as a help therefore to the eye, I may briefly add, that the changes in nomenclature which have become necessary are the following :—

Calathus advena, W. . . .	= Calathus canariensis, Har.
Bembidium concolor, Br. . . .	= Bembidium fortunatum, W.
Philhydrus melanocephalus, W. (nec Oliv.)	= Philhydrus politus, Küst.
Sacium pusillum, W. (nec Gyll.) . . .	= Sacium maderæ, Kr.
Arthrolips obscurus, W. (nec Sahlb.) . .	= Arthrolips piceus, Com.
Acrotrichis Montandonii, W. (nec Allib.)	= Acrotrichis nigricornis, Mots.
———— Guerinii, W. (nec Allib.) . .	= ————— obscœna, W.
Ptenidium lævigatum, W. (nec Gillm.)	= Ptenidium Bruckii, Matth.
———— apicale, W. (nec Gillm.) . .	= ————— atomaroides, Mots.
Ptinella Proteus, Matth.	= Ptinella testacea, Heer.
Meligethes tristis, W. (nec St.) . . .	= Meligethes seniculus, Er.
Silvanus unidentatus, W. (nec Oliv.)	= Silvanus bidentatus, F.
Corticaria tenella, W.	= Corticaria delicatula, W.
Saprinus nitidulus, F.	= Saprinus semistriatus, Herbst.
Oxyomus Heinekeni, W.	= Atænius stercorator, F.
———— brevicollis, W.	= Atænius brevicollis, W.
Acmœodera ornata, W.	= Acmœodera elegans, Har.
Anobium striatum, Oliv.	= Anobium domesticum, Fourc.
Hylastes trifolii, Mull.	= Hylastes obscurus, Mshn.
Rhyncolus crassirostris, W.	= Rhyncolus pinipotens, W.
Nanophyes longulus, W.	= Nanophyes Chevriieri, Gyll.
Hypera lunata, W.	= Phytonomus dauci, Oliv.
———— irrorata, W.	= ————— irroratus, W.
———— murina, F.	= ————— murinus, F.
Scoliocerus maderæ, W.	= Cathormiocerus maderæ, W.
———— curvipes, W.	= ————— curvipes, W.
Bruchus subellipticus, W.	= Bruchus irresectus, Fhs.
Helops congener, W.	= Helops conformis, Gemm.
Scydmaenus castaneus, W.	= Scydmaenus castanicolor, Har.
Phlœopora corticina, W.	= Phlœopora reptans, Grav.
Homolota obliquepunctata, W.	= Homalota pavens, Er.
Oligota inflata, W. (nec Mann.) . . .	= Oligota parva, Kr.
Heterothops minutus, W.	= Heterothops dissimilis, Grav.

<i>Ocypus curtipennis</i> , W. . . .	= <i>Ocypus canariensis</i> Har.
——— <i>punctatissimus</i> , W. . . .	= ——— <i>fortunatarum</i> , W.
<i>Philonthus scybalarius</i> , Nordm. . . .	= <i>Philonthus longicornis</i> , Steph.
——— <i>marcidus</i> , W. . . .	= ——— <i>concinus</i> , Grav.
——— <i>proximus</i> , W. . . .	= ——— <i>ventralis</i> , Grav.
——— <i>punctipennis</i> , W. . . .	= ——— <i>turbidus</i> , Er.
<i>Leptacinus linearis</i> , Grav. . . .	= <i>Leptacinus pusillus</i> , Steph.
<i>Scopæus trossulus</i> , W. . . .	= <i>Scopæus sericans</i> , Muls. et Rey.
<i>Lithocharis fuscula</i> , W. (nec Mann.)	= <i>Lithocharis apicalis</i> , Kr.
——— <i>tricolor</i> , Mshn. . . .	= ——— <i>ruficollis</i> , Kr.
<i>Sunius angustatus</i> , Payk. . . .	= <i>Sunius gracilis</i> , Payk.
<i>Stenus fulvescens</i> , W. . . .	= <i>Stenus Wollastoni</i> , Har.
<i>Bledius januvianus</i> , W. . . .	= <i>Bledius vitulus</i> , Er.
<i>Trogophlæus exilis</i> , W. . . .	= <i>Trogophlæus pusillus</i> , Grav.

Since the appearance of the 'Coleoptera Atlantidum,' a very important accession to our knowledge has been made, through the publication, by Mr. G. R. Crotch, of a list of the Coleoptera which were obtained by Mr. Godman at the Azores; and this catalogue, although far from extensive, is at any rate sufficient for a rough estimate of the general character of the beetle population of that hitherto uninvestigated archipelago,—and sufficient, too, I think, to affiliate the latter with the more southern Groups. Indeed, the existence of such types as *Tarphius*, *Laparocerus*, and *Hegeter*, even apart from the many other points of conspicuous contact which it is next to impossible to account for on any theory of accidental dissemination, are topographically so significant, that scarcely any additional evidence could be necessary in order to stamp the fauna as unmistakably "Atlantic." Yet, although superfluous to allude to them, species like *Calosoma azoricum* (which, while absent from Madeira, re-appears on the Canaries and Cape Verdes), the *Phlæophagus tenax* (so characteristic of the laurel regions of Madeira), the *Opatrum hispidum* (which permeates nearly

every portion of the three more southern archipelagos), and the *Homalium clavicorne* (which swarms in the rotten *Euphorbia*-stems of the Madeiran Group) are, in a geographical point of view, hardly less important. The entire number of species obtained by Mr. Godman was 212; and of these Mr. Crotch remarks that "175 are common to Europe, 140 to Madeira, and 116 to the Canaries." The "140," however, may be increased at any rate to 144; for during our late sojourn at Madeira we met with the following species which are recorded by Mr. Crotch, but which had not until then been observed in any of the islands which constitute the more southern clusters:—viz., *Stenolophus exiguus*, Dej.; *Latridius nodifer*, Westw.; *Lithocharis ripicola*, Kr.; and *L. apicalis*, Kr.

Although it is not my intention in this memoir to discuss the *quæstio vexata* of geographical distribution, I nevertheless can scarcely omit a brief notice of two very remarkable papers on some of the complex problems which arise out of that particular subject—both of which have made their appearance within the last few months, and which alike enter largely into the supposed "origin" of the fauna of the Atlantic islands. The publications to which I allude are (1) by Mr. A. Murray, "On the Geographical Relations of the chief Coleopterous Faunæ," which appeared in the Linnean Society's Journal in October 1870; and (2) the extremely interesting Presidential Address of Mr. Wallace, read before the Entomological Society of London in January last. Although with numerous and unmistakable points in common, the authors referred-to account for the colonization of these various sub-African archipelagos by methods which we cannot but regard as not merely dissimilar but even antagonistic,—Mr. Murray contending that a land-passage (both *inter se* and with south-western Europe) is absolutely indispensable, and that *accidental dispersion* (as a general principle) between countries widely separated from each other by an oceanic barrier "is in its very nature *exceptional*, and one which *cannot be expected to make its impress on a whole fauna*;" whilst Mr. Wallace, on the other hand, affirms his belief that "The Azores, and in a less degree Madeira, appear to teach us this important lesson in the laws of distribution of birds and insects," namely, that the fauna has been de-

terminated "*almost wholly* by such *exceptional* causes as storms and hurricanes, which still continue to bring immigrants from the nearest lands."

Without recapitulating the various arguments and evidence for these two opposite modes of colonization, I feel bound to add that my own views (as elsewhere, and oftentimes, expressed) are *more* in accordance with those propounded by Mr. Murray than with the theory of exceptional, atmospheric dissemination which is so ably advocated by Mr. Wallace. That storms and hurricanes may have played a decided part, at rare intervals, in the accidental transportation of living organisms into many a remote island I would not for an instant wish to dispute; but, nevertheless, after much consideration *in situ*, and with no other desire (through many years) than to arrive simply at the truth, I cannot convince myself that any such abnormal methods of dispersion have done *much* towards bringing about the phenomena in the Atlantic archipelagos which we now witness, and which appear to me to be dependant rather upon causes which *geologically* perhaps might (whether correctly so or not) be defined as "exceptional," and of which an "overwhelming catastrophe," involving its legitimate results, whether from upheaval or depression, may be selected as an intelligible example.

Judging simply from the Coleopterous statistics, from the exact phenomena which present themselves on the various portions of these scattered archipelagos, and from the unmistakable manner in which the most *characteristic* forms permeate the entire province (in nearly every instance increasing steadily, both as regards species and individual numbers, up to some central nucleus, and then gradually diminishing as we proceed towards the south), I feel more and more convinced that nothing but a land of passage *between at any rate the consecutive Groups*, destined to be broken up at some later period by a gigantic convulsion, will satisfy the requirements of the Atlantic problem, and harmonize its otherwise discordant parts. Yet, although I can see (or, rather, think that I can see) a nearly equal necessity for a north-easterly extension of that *quondam* tract, I should imagine (from the much greater preponderance of significant European types in

the more central archipelago) that it was the *Canaries*, and not *Madeira*, from which the *Mediterranean* branch took its rise. And if this be the case, it appears to me that a north-westerly prolongation, or fork, from *Teneriffe* (*viâ* the *Salvages*) to *Madeira*, and thence continued to the *Azores*, would give all that we require (in conjunction with its partial *subsequent* disruption) to render the phenomena, as now met with, intelligible.

If we accept some such explanation as this, the accidental methods of conveyance across wide oceanic barriers (whether on the water or through the air), whilst credited with an appreciable amount of possible results, would not be required; for in that case the modes of progression, even amongst species which are by nature phlegmatic and stationary, become comparatively simple, being over a continuous land. Yet I cannot but think, where an unbroken tract has to be taken into account, that we can ill-afford to dispense with the agency of even the *ordinary* winds (which in this Atlantic region blow nearly uninterruptedly from the north-east) in promoting the gradual migration of the insect inhabitants; for it must be remembered that a considerable number of the latter, however sedentary in their modes of life, and disinclined (like the *Tarphii*) to wander from a single spot, undergo their transformations within the pithy stems of plants, and these latter when accidentally broken off, or rent by storms, would be conveyed at all events slight distances even by the common breezes, and would thus transport their inmates, whilst in the larva state, to places near at hand which the *imago* would never have colonized. I lay unusual stress upon this fact, because if the winds are to have any acknowledged influence in conveying living organisms across a *broad expanse of sea*, it is clear that they must (as rightly contended by Mr. Wallace) be of an altogether *exceptional* kind,—indeed, emphatically, “storms and hurricanes,” phenomena which are not only somewhat rare in these particular latitudes, but which, when they arise, blow almost invariably from the *south* (thus implying a migration in an *opposite* direction from that which the facts, as now observed, most plainly indicate); and moreover the sluggish, apterous types, *which are the ones so largely represented in these Atlantic islands*, possess (on the average) bodies which are comparatively unwieldy, and of all others the *least* suitable for atmos-

pheric propulsion; whereas over an *unbroken region* positive hurricanes would *not* be necessary for our purpose—the general *tendency* of the insect fauna (including the wingless tribes) being manifestly to follow the course of the most prevalent winds.* And that the winds in even remote times have blown from the same quarter as they do now is proved to a demonstration by the fact, that nearly every extinct crater which I have hitherto inspected throughout the three archipelagos (and in the Canarian Group there are scores of them) are more or less broken into, or open, on the north-eastern side; thus evidently showing in which direction it was that the breeze was most persistent.

Into the geological difficulties of the problem I do not profess to enter; they may, or may not, be insuperable. But any experienced observer, who has examined critically the various phenomena *in situ*, could scarcely fail, I think, to arrive at the conclusion that at all events the several islands themselves which compose *each of the individual groups*, and many of which are now separated from each other by wide oceanic channels of twenty, thirty, and even forty miles in breadth, were once united so as to form a comparatively extensive land; for if there is one thing more unmistakable than another, throughout every portion of these sub-African Groups, it may be expressed in a single word—*depauperation*. Taking this therefore as sufficiently proved, it seems to follow inevitably that (despite the uniformitarian opinions of the day) “catastrophes,” properly so called, *must* have had a significant place in the geological record; and if this be true, who shall venture to limit their magnitude?

My own opinion is (as indeed was sufficiently expressed in the Preliminary Remarks both of the ‘Coleoptera

* I say “the insect fauna,” because if a certain proportion are compelled to migrate (however gradually) in the manner in which I have suggested, others which (like the hunting races) prey upon them would of their own accord inevitably follow: and so, in the course of time, the *general tendency* would be in a uniform direction,—even whilst occasional storms and tornados, at rare intervals, might succeed in conveying elsewhere a few of the characteristic types.

Atlantidum' and the 'Coleoptera Hesperidum') that the whole of these island clusters are but the scattered remains of a once (for the most part) continuous land—which, whatever were its northern bounds, had an undoubted north-easterly extension into what is usually termed the "Mediterranean province;" and it certainly appears to me that the particular region which is now represented by the Canarian archipelago received the first, and most complete, influx of Mediterranean types. Apart from every other motive stimulus, the ordinary breezes, which seem to have swept well-nigh uninterruptedly in the same direction formerly as now, would tend to keep up a slow, yet steady, migration towards the south-west, along that *quondam* tract; while occasional tornados from the east and south, such as are still experienced, might (on the principle suggested by Mr. Wallace) account for a slight sub-African element in the fauna, and likewise transmit a few genuine Atlantic types, as a repayment, to the north. Once fairly colonized, the gigantic subsidencies which could alone convert the major part of this vast continent into an ocean-bottom, may well be supposed to have accomplished what is further required,—the isolation of similar species upon areas which were respectively larger and smaller, and the greater or less depauperation of the areas themselves, suggesting innumerable methods for rapidly inaugurating distinctly modified races, and reducing the phenomena to what we now witness.

Although I cannot here enter into the minuter details of insect-dissemination, I will just call attention to the fact that there is a certain small assemblage of anomalous beetles attendant upon ants, which would seem, as Mr. Wallace has remarked, to have some *exceptional* methods of dispersion; for many of them, which possess neither wings nor eyes, and are partially even subterranean in their habits, appear to have acquired a wider geographical range than is the case with numerous forms whose capability for locomotion is developed to the full. We must remember, however, that the ants (which tend them with the greatest care) are a restless and erratic tribe, and would themselves carry their mysterious guests into every fresh area which they might succeed in occupying. Moreover, in the Atlantic archipelagos, I believe that another, and more irregular, principle may unexpectedly have been

at work, within a comparatively recent date, to disseminate accidentally the myrmecophilous tribes,—I mean that of indirect human agency. Thus, to take an example, it was to me always an enigma how the anomalous *Cossyphodes Wollastoni*, which is both apterous and nearly blind, could by any possibility have acquired the range which I have myself ascertained it to possess,—namely, from Madeira to the extreme south of the Cape Verdes; for (in addition to Madeira proper, where it is far from uncommon around Funchal) I have captured it, always in company with the *Ecophthora pusilla*, in Teneriffe and Gomera at the Canaries, and in S. Iago and Brava of the Cape Verde group. In Brava it is indeed somewhat abundant; and the *Ecophthora* swarms to such an extent on that remote little island, as to have become a downright pest,—the shingly beds of some of the half-dried streams (as, for instance, that of the Ribeira do Sorno) being literally, as it were, alive with it. Now we ascertained, when in Brava, that since the period of its occupation, numerous Madeiran families had emigrated thither, and had taken along with them the same taste for floriculture which is so striking a feature in the more northern Group; and it was easy to recognize around the Quintas of the Povoação a large number of ornamental plants which had, without doubt, been imported, from time to time, from the gardens of Funchal. Now every consignment, of even a few plants or shrubs, would probably be accompanied by the universal Madeiran ant, for garden-soil can hardly be collected, in the vicinity of Funchal, which is altogether free from it; and, along with the *Ecophthora*, we may be pretty sure that an occasional *Cossyphodes* must have found its compulsory way to Brava. Assuming, then, that the physical conditions were suitable for their development, both one and the other of the above-mentioned species would soon multiply, and more or less over-run the whole island.

I have thought it worth while to cite the above example because I believe that the transmission of roots, in boxes, from more northern latitudes, has been a most significant means of introducing species (perhaps hundreds of them) into most of the inhabited portions of these particular oceanic Groups; and that the ants'-nest forms should, *par excellence*, be amongst those which have

been conveyed, it will immediately strike every naturalist as probable. And since it is further certain that ants are emphatically a wandering race, and would themselves rapidly disseminate their small Coleopterous attendants, we have everything that is necessary in order to account for the *co-dispersion* of the two.*

Having stated thus much on this particular subject, I will not at present add more, for my object was merely to call attention to the two suggestive papers of Mr. Murray and Mr. Wallace, rather than to discuss the general question itself. I will therefore proceed with the minutiae of this memoir, taking the several species *seriatim*, in the order which is indicated in my 'Coleoptera Atlantidum.'

Fam. CARABIDÆ.

p. 9 (genus *PHEROPSOPHUS*).

(Sp. 22) *Pheropsophus hispanicus*.

According to MM. Fairmaire and Coquerel (Ann. de la Soc. Ent. de France, 17; 1866), this noble Brachinid is in all probability a geographical variety of Dejean's *P. africanus*. "Il paraît difficile," they add, "de ne pas regarder cet insecte comme une simple variété géographique du *africanus*. Quand on compare les individus provenant d'Andalousie et ceux du Sénégal on trouve évidemment une grande différence; mais cette différence est bien peu de chose si l'on prend pour terme de comparaison les Brachines de Tanger. Il est du reste facile de comprendre qu'après la séparation de l'Espagne et de l'Afrique, la race de Brachines restée en Europe ne pouvant se retromper par un croisement continué avec celle des régions tropicales, a dû diminuer de taille et finir par constituer un type inférieur au type primitif, comme on le voit pour les *Carabus rugosus* et *bæticus*, et comme nous le verrons plus loin pour un *Paussus*."

* During our visit to S. Iago, of the Cape Verdes, I detected the nearly-blind *Cossyphodes Wollastoni* amongst vegetable detritus, at San Domingos, which had accumulated in the hollows of ancient trees, high up above the ground,—situations into which it must without doubt have been dragged by the *Æcophthora*, which positively swarmed.

p. 23 (genus EURYGNATHUS).

(Sp. 59) *Eurygnathus Latreillii*.

The slightly altered phasis of this insect which obtains on the Deserta Grande, constituting the "var. β " of my 'Insecta Maderensia,' has lately been described by the Baron Chaudoir (Rev. et Mag. Zool. 121; 1869) as a separate species, under the title of *E. parallelus*; but I am nevertheless persuaded that the small characters which distinguish it are completely worthless in a specific point of view, and cannot be supposed to indicate more than an unimportant insular variety. Indeed, I have already expressed this conviction in no less than three publications; and I may add that I twice submitted Desertan examples to the late Dr. Schaum, who affirmed in the strongest terms that they ought not on any account to be treated as more than a trifling modification, or race, of the Porto-Santan type. My belief is, that Chaudoir's conclusion is utterly untenable; whilst to cite the insect as simply from "Madeira" conveys an altogether false impression of its *habitat*, and fails to imply that the form in question may be (and probably is) a mere insular one. Although from the Madeiran *archipelago*, *Eurygnathus* has never yet, in point of fact, been detected in "Madeira" at all, it being peculiar (so far as hitherto observed) to Porto Santo and the Deserta Grande,—on the latter of which islands it assumes a slightly altered phasis (being, on the average, a little larger and more parallel, and with the sides of its prothorax somewhat broader and more recurved). And this leads me to remark how dangerous a practice it is, without some knowledge of the localities which they frequent, to describe every slightly differing form as necessarily a specific one; for I do not hesitate to assert that nearly *every* species which permeates these widely scattered archipelagos will be found (when closely inspected) to possess *some* little peculiar feature for each individual islet on which it occurs; and to treat, therefore, all these infinitesimal phases as *specific* is, to my mind, most unphilosophical; for that aboriginally distinct species should have been brought into existence for every oceanic rock which happens to have become detached from the central mass, is a thesis which few, I think, would endeavour to uphold, and one which seems to me to carry along with it its own immediate refutation.

p. 28 (genus *CALATHUS*).

(Sp. 78) *Calathus advena*.

It appears from the Baron Harold's recently published Catalogue, that the specific title of this insect must be changed,—Leconte (Ann. Lyc. iv. 217) having cited a *Pristodactyla advena* in 1846, and the genus *Pristodactyla* being now by universal consent united with *Calathus*. Indeed the author has himself made the alteration already, by proposing for it the unfortunately inappropriate name of *canariensis*; so that the synonymy of the species will stand as follows:—

Calathus canariensis.

Calathus advena, Woll. [*nec* Lec. 1846], Ann. Nat. Hist. 344 (1862); Id., Cat. Can. Col. 32 (1864); Id., Col. Atl. 29 (1865). *Calathus canariensis*, Har., Col. Heft. iii. (1868); Id., Cat. Col. 361 (1868).

Hab.—Canarienses (*Can.*); in regione intermediâ El Monte dictâ à meipso semel captus.

p. 48 (genus *STENOLOPHUS*).

Whilst residing at S. Antonio da Serra (at an elevation of about 2,000 feet), during our late sojourn in Madeira, I met with seven or eight individuals of the European *S. exiguus*, by sifting fallen leaves in the little wood (near to the church) known as the “Circa;” and on our return to England I found that there were two examples of the same species in the collection of the late Mr. Bewicke, which (having been placed amongst his series of the *Bradycellus excultus*) had escaped our notice. Hence, although only now for the first time added to the fauna (though it is recorded by Mr. Crotch as having been taken in S. Miguel and Terceira, at the Azores), Mr. Bewicke claims the priority of capture. Judging from the examples before me, the Madeiran ones would seem to belong principally to the more pallid state (in which the prothorax and suture are appreciably rufescent, or diluted in hue) which has occasionally, in more northern latitudes, been regarded as a distinct species

under the name of *luridus*, and which, according to Mr. Crotch, is the one which obtains at the Azores: the two forms, however, as in Europe, fade off gradually into each other. The following diagnosis will suffice to inaugurate the species into our Atlantic catalogue.

Stenolophus exiguus.

S. oblongus, nitidus, nigro-piceus, prothorace obsolete dilutior (i. e., paululum magis rufescenti); elytris leviter striatis; antennis ad basin, palpis pedibusque piceo-testaceis, tibiis versus apicem plus minus evidenter obscurioribus.

Long. corp. lin. circa $1\frac{1}{2}$.

Acupalpus exiguus, Dej., Spec. iv. 456 (1829). *Stenolophus exiguus*, Daws., Geod. Brit. 161 (1854); Schaum, Nat. der Ins. Deutsch. i. 620 (1860).

Variat colore dilutior, — plus minus fusco-piceus, prothorace clarius rufescente, elytris in limbo et suturâ sensim dilutioribus.

Acupalpus luridus, Dej., loc. cit. 454 (1829). *Stenolophus luridus*, Daws., loc. cit. 160 (1854). *Stenolophus exiguus* var., Schaum, loc. cit. 620 (1860). *Stenolophus luridus*, Crotch, Proc. Zool. Soc. Lond. 369 (1868).

Hab.—Maderensis (*Mad.*); inter folia dejecta ad S. Ant. da Serra a meipso, necnon olim a Dom. Bewicke, parce deprehensus.

p. 52 (genus TRECHUS).

After species 156, add:—

Trechus debilis, n. sp.

T. angustulo-oblongus, nitidiusculus, subdepressus, rufo-piceus, capite necnon elytrorum suturâ (limboque versus apicem et humeros) obsolete dilutioribus; prothorace subquadrato, basi vix angustato; elytris oblongis, depressiusculis, profunde striatis; antennis pedibusque longiusculis, gracijsculis, testaceis, illis et interdum tibiis plus minus obscurioribus.

Long. corp. lin. circa $1\frac{1}{2}$.

Hab.—Maderensis (*Mad.*); in sylvaticis editioribus ad S. Ant. da Serra, tempore vernali A.D. 1870, sat copiose repertus.

Obs. Species *T. flavomarginato* affinis, sed nisi fallor certe distincta. Differt corpore angustiore, oblongiore, graciliore, ac paulo depressiore, sensim minus nitido sed omnino dilutiore (magis rufescente), capite præcipue minus obscuro; prothorace paululum magis quadrato (*i. e.*, postice sensim minus angustato); elytris ad latera magis parallelis, subdepressioribus, ac multo profundius striatis, magis concoloribus (*i. e.*, in limbo minus evidenter testaceis); antennis pedibusque sub-longioribus et sub-gracilioribus.

Several examples of this *Trechus* were taken by myself during April and May of 1870, at S. Antonio da Serra, in the intermediate elevations of Madeira,—in company with the *T. flavomarginatus*, which is so universal within the wooded districts of that island. There can be no doubt, I think, that the species is perfectly distinct from (although closely allied to) the latter,—being not only narrower, slenderer, and more oblong, but likewise perceptibly less shining, and altogether more diluted, or rufescent, in hue (the head being especially redder); its prothorax also is just appreciably squarer, or less narrowed behind; its elytra are straighter, or more parallel at the sides, a trifle flatter, and much more deeply striate, as well as more *concolorous* (there being less trace of a pallid margin); and its limbs are, if anything, somewhat longer and slenderer. It was far from uncommon throughout the S. Antonio da Serra region; the majority of my specimens having been captured by sifting dead leaves and refuse in, and near, the laurel woods.

(Sp. 160) *Trechus quadricollis*.

This species was founded, in 1854, upon a single example which was captured by myself in the autumn of 1847 at the Curral das Romeiras—on the mountains above Funchal; and I have already more than once expressed my conviction that further material was greatly needed, in order to determine as to whether or not it is a mere state, or local variety, of the *T. custos*. During the past winter

and spring I met with several individuals at "the Mount" (a region adjoining the Curral das Romeiras ravine) which I have no doubt whatsoever are conspecific with my original example, and which I now feel satisfied cannot be separated specifically from the *T. custos*. Indeed a sufficient series has convinced me that the *quadricollis* can scarcely be upheld as even a well-defined "variety,"—the particular examples which accord with my original one being merely a trifle smaller and paler than the rest, and possibly a little more parallel in outline; so that I would desire to suppress the *quadricollis* as a mere unimportant phasis (if indeed a "phasis" at all) of the *custos*, and to cite, consequently, as an additional synonym, the *T. tetracoderus* of the Baron Harold's recent Catalogue (394, A.D. 1868),—a title which he imposed upon my supposed species in consequence of the name *quadricollis* having been preoccupied for a *Trechus*, by Putzeys, in 1847.

p. 59 (genus BEMBIDIUM).

(Sp. 182) *Bembidium concolor*.

It appears to be necessary to change the name of this insect, that of *concolor* having been pre-occupied by Kirby (*Fna. Bor. Am.* iv. 54) for a *Bembidium* during the previous year, 1837. And this perhaps is less to be regretted, since M. Brullé's "description," published in Webb and Berthelot's ponderous work in 1838, is so marvellously inaccurate that it simply amounts to no description at all. Having given a full diagnosis of it in 1864, and called attention to the exact points in which it is more especially peculiar, I need not insert a fresh one here, but will merely propose for it the title of *fortunatum* (the insect being a very characteristic one in the Canarian archipelago), citing its changed synonymy as follows:—

Bembidium fortunatum.

Bembidium concolor, Brullé [*nec* Kby. 1837], in Webb et Berth. (Col.) 58 (1838); Woll., Cat. Can. Col. 70 (1864); Id., Col. Atl. 61 (1865).

Hab.—Canarienses (in *Fuert.* solâ hactenus haud observatum); per margines aquarum, necnon ad rupes aquosas, hinc inde vulgare.

Fam. DYTISCIDÆ.

p. 67 (genus COLYMBETES).

The Atlantic species of this group fall more properly under Eschscholtz's genus *Scutopterus*, which I have hitherto regarded as scarcely more than a subdivision of *Colymbetes* proper. As, however, it appears to be usually acknowledged, and the only exponents of it which have yet been brought to light are the *coriaceus* and *lanio* (the former of which is found in the south of Europe and the Canaries, whilst the latter is supposed to be peculiar to Madeira), and the *pustulatus* from Italy, it will be better perhaps to uphold it as generically distinct, and to cite the species consequently as *Scutopteri*. They seem to differ from the true *Colymbetes* in having the first four joints of their four anterior male feet powerfully dilated, the basal three being likewise studded beneath with minute cushions or *pulvilli*. Although I have not yet seen that particular sex of the species which I have enunciated below under the title of *imbricatus*, it nevertheless has so very much in common both with the *coriaceus* and *lanio* that I have little doubt it must be a true member of the same actual group. Of the three Atlantic *Scutopteri*, it will be desirable to place the *coriaceus* first, then the *imbricatus* (a diagnosis of which I subjoin below), and lastly the *lanio*.

Scutopterus imbricatus, n, sp.

S. oblongo-ovatus, *elongatus*, *subopacus*, *nigro-piceus*, *capitis parte anticâ maculisque duabus frontalibus et prothoracis lateribus piceo-ferrugineis*; *capite prothoraceque rugose coriaceis, hoc antice angustato*; *elytris elongato-ovatis basi truncatis, paululum nitidioribus, grosse subimbricato-rugulosis et obsolete subtestaceo commixtis, singulis longitudinaliter triseriatim notatis*; *antennis palpisque rufo-ferrugineis, pedibus rufo-piceis*.

Long. corp. lin. 10.

Hab.—Maderensis (*Mad.*); exemplar unicum, sc. fæmineum, olim misit clariss. Baronus de Paiva.

Obs. Species *S. lanioni* affinis, sed corpore magis ovato (antice, et in elytris et in prothorace, angustiore), elytris obscurioribus, minus nitidis, et rugose imbricato-

asperatis, pedibus (ciliisque in posterioribus) piceo-
tioribus. A *S. coriaceo* (Europæo et Canariensi) differt
corpore minus obtuse oblongo (*i. e.*, antice angustiore)
omnino minus nigro, capite distinctius maculato et pro
thorace ad latera ferrugineo, necnon etiam in elytris
obscure pallido-irroratis, prothorace paulo minus trans-
verso, postice minus sinuato (angulis basalibus rectoribus),
scutello sensim minus triangulari, et elytrorum impres-
sionibus (in seriebus tribus dispositis) magis rotundatis
punctiformibus.

The single individual (a female) from which the above
diagnosis has been drawn out was sent to me from
Madeira, about two years ago, by the Baron Paiva; and
it has since been placed aside, hoping that further material
might perhaps enable me to speak with greater precision
on the specific feature of the other sex, no less than on
those of the present one. As no further examples how-
ever have been brought to light, and the distinctions of
the solitary one now before me are too important to be
ignored, I feel compelled to notice it in this memoir, and
have proposed therefore the title of *imbricatus* for the
species which it must be presumed to represent.

Judging, consequently, from the only type to which I
have access, the *S. imbricatus*, while differing widely
from them both, appears to be in many respects exactly
intermediate between the *S. coriaceus* (of southern
Europe and the Canaries) and the Madeiran *S. lanio*.
From both of them it recedes (though especially from
the former) in its less oblong, or obtuse, outline,—it
being perceptibly narrower in front, and therefore alto-
gether more elongate-ovate; whilst from the *lanio* it
further differs in its elytra being not only much darker
in hue, but also less shining, and sculptured after the sin-
gular fashion which obtains in the *S. coriaceus*, being
closely roughened with coarse transverse *imbrications*.
Its legs likewise are more piceous, with the long hairs
which fringe the four hinder ones much darker, or less
fulvescent.

Although agreeing in its sculpture with the *S. coria-
ceus*, the present *Scutopterus* (apart from its outline being
more narrowed anteriorly) differs from that species in its
colour being altogether less black, in its head being more
brightly maculated, in its prothorax (instead of conco-
lorous) being ferruginous at the sides (as in the *S. lanio*),

and *in its elytra having an obscure *under*-tint of testaceous, though at the same time so densely mottled with black as to appear at first sight almost completely dark. Its prothorax likewise is a little less transverse, and not quite so undulated (or sinuate) along its basal edge, causing the hinder angles to be more decidedly right-angles; its scutellum is rounder, or less triangular; and the triple series of its elytral impressions are more punctiform or less linear and elongate.*

p. 71 (genus *EUNECTES*).

After species 213, add:—

Eunectes helvolus.

E. ovatus, angustulus, luteo-griseus, clypeo antice vix marginato; capite postice nigro, et maculâ frontali magnâ plus minus suffusâ antice bipartitâ ornato; prothorace vittâ transversâ abbreviatâ ornato, ad latera oblique rectissimo, angulis posticis acutiusculis; elytris punctis magnis sat profundis in triplici serie et ubique punctulis minoribus nigris notatis, singulis maculis duabus minutis sublateralibus et fasciâ transversâ tenui dentatâ posticâ (plus minus obsoletâ) nigris ornatis.

Long corp. lin. 6.

Eunectes helvolus, Klug, Symb. Phys. 33·3. *Eunectes conicollis*, Woll., Ann. Nat. Hist. vii. 97 (1861). *Eunectes helvolus*, Id., Col. Hesp. 35 (1867).

Hab.—Maderenses (*Mad.*) ; in Salinis ad Paul do Mar a Dom. Moniz deprehensus.

A few examples of this *Eunectes* were captured by Senhor Moniz at Paul do Mar, in the west of Madeira, from amongst plants of *Ruppia rostellata*, Koch, in the briny water of a Saltern. It would appear, therefore, to be a saline species—a circumstance to which I called attention, at p. 36 of my ‘*Coleoptera Hesperidum*,’ whilst commenting on its *probable* habitat in the Cape

* From the *pustulatus* of southern Europe, which appears to be regarded as a *Scutopterus*, it seems (judging from the published diagnosis) to differ even structurally,—the claws of the four anterior male feet in that species being described as of unequal dimensions. Moreover the *pustulatus* is said to have an ænescent tinge, with the sculpture of its elytra the same as that of its head and prothorax.

Verde archipelago. It doubtless possesses a wide African range; and I have already [Ann. Nat. Hist. vii. 99] expressed my belief that Aubé was mistaken in treating it as a variety of the almost comopolitan *E. sticticus*.

Fam. HELOPHORIDÆ.

p. 73 (genus OCHTHEBIUS).

Before species 221, and commencing the genus, add:—

Ochthebius algicola, n. sp.

O. angustulus, elongatulo-oblongus, submetallico-niger, nitidulus, (nisi oculo fortissime armato) calvus; capite postice foveis binis punctiformibus impresso, leviter et confuse ruguloso—sed prothorace distinctius punctatis, hoc coleopteris subangustiore, postice paulo angustato sed haud pellucide (ut in *Ochthebiis* plurimis) marginato, tenuiter canaliculato, antice et postice levissime transversim impresso (impressione posticâ lunulatâ); elytris oblongis, dense et rugose striato-punctatis (primâ facie quasi subasperato-crenulatis); antennis (clavâ obscuriore exceptâ), palpis pedibusque piceo-testaceis.

Long. corp. lin. vix. 1.

Hab.—Maderenses (*Mad.*); inter Confervas marinas in aquis omnino salinis ad “Gorgulho,” haud procul ab urbe Funchalensi, tempore vernali A.D. 1870, a meipso detectus.

The habits of this most interesting *Ochthebius* appear to be precisely similar to those of the *Calobius Heeri*,—two examples of it having been captured by myself, during our late sojourn in Madeira, from amongst marine *Confervæ*, in pools of unadulterated sea-water left by the tide on the rocks (at the Gorgulho) to the westward of Funchal. Indeed at the time (never suspecting that any other species would possess the same very anomalous mode of life, and despite its wanting the long wiry legs and unsculptured surface of *Calobius**) I actually mistook

* In the recently published Catalogue of Gemminger and Harold, *Calobius* is cited as a synonym of *Ochthebius*, which can only be due to their total ignorance of its structural peculiarities,—the genus, although utterly distinct from them both, having in reality more in common with *Hydræna*.

it for that insect, and so merely secured these two individuals; though in all probability I might have easily obtained more, had it once occurred to me that it was distinct.

The *O. algicola* is narrower and more oblong (or parallel) than any of the *Ochthebii* which have hitherto been detected in these Atlantic islands, and except under a very high magnifying power it is totally devoid of all traces of even the minutest pubescence. With the exception of its piceo-testaceous limbs, it is of a dark hue, being but very faintly submetallic; its prothorax (which is, if anything, a trifle narrower than the widest part of the elytra) is free from any portion of *pellucid* margin (so common in the *Ochthebii*), and is very lightly impressed with an anterior and (curved) posterior transverse fovea; and its elytra are densely and coarsely striate-punctate, having almost the appearance at first sight of being subasperate and closely crenulated.

(Sp. 223) *Ochthebius subpictus*.

Madeira proper must be added to the habitat of this *Ochthebius*; for although the individuals taken by myself in Porto Santo were all that had until quite lately been observed, a specimen has more recently been communicated by the Baron Paiva which was captured in Madeira. Being, in Porto Santo, found in streams which are brackish, it is not improbable that it may occur likewise in water which is almost, or even entirely, saline: at any rate in the same bottle which contained it there are examples of the *Calobius Heeri*, which resides amongst marine *Confervæ* in the small pools of actual sea-water (along the rocky shores both of Madeira and Porto Santo); and I cannot but think it likely, therefore, that this single *Ochthebius subpictus* may perhaps have been captured in company with the *Calobii*.

Fam. HYDROPHILIDÆ.

p. 77 (genus PHILHYDRUS).

It is now more than a year since Dr. Sharp, who has studied the European *Philhydry* with considerable care, detected some examples of Thomson's *P. maritimus*

amongst the Canarian material which had been submitted to him by Mr. G. R. Crotch, and which was collected by the latter in the island of Gomera. Dr. Sharp having communicated this fact to me, I requested him to examine critically the very variable species (so abundant in many parts of the Madeiran and Canarian archipelagos) which I had hitherto referred, on the authority originally of Dr. Aubé, to the *melanocephalus* of Olivier; and the result is that he considered it as wrongly assigned to the latter, being identical, rather, with what he had little doubt is the *politus* of Küster (a species which occurs in Mediterranean latitudes, and which he had himself received from the south of Spain). This, therefore, apart from affording an absolute *addition* to the catalogue in the European *P. maritimus* (examples of which had certainly never before come beneath my notice), necessitates a change in the nomenclature of the other species—erroneously regarded by myself as Olivier's *melanocephalus*; and I would desire, therefore, to give the two following diagnoses—which will not only point out the difference between the species in question, but which will enable me also to correct the synonymy of the latter, and to call attention to its topographical range as hitherto ascertained.

Philhydrus maritimus.

P. oblongo-ovalis, parum convexus, subnitidus, luride fusco-testaceus sed in limbo sensim dilutior, ubique crebre et argute punctatus (punctis in elytris vix remotioribus); antennarum clava obscuriore; coleopteris seriebus tribus irregularibus punctorum majorum utrinque longitudinaliter notatis.

Mas: tarsorum unguiculis fere angulatim curvatis, ad basin dente valido instructis.

Fœm.: tarsorum unguiculis ad basin dente minore instructis.

Long. corp. lin. vix $2\frac{1}{2}$.

Philhydrus maritimus, Thoms., Skand. Col. ii. 96 (1860); Sharp, Ann. Nat. Hist. 14 (1870).

Hab.—Canariensis (*Gom.*); a DD. Crotch æstate A.D. 1864 parce deprehensus.

The pale lurid or brownish-testaceous colour, and comparatively coarsely punctured surface, of this European *Philhydrus* (the palpi of which seem to be immaculate) will readily distinguish it from the following species—which (although it varies occasionally into a somewhat testaceous hue) is always darker (at times, indeed, being nearly black), and much more lightly sculptured. As already stated, it was captured by the Messrs. Crotch during the summer of 1864 in Gomera.

Philhydrus politus.

P. oblongo-ovalis, convexus, nitidus, niger sed in limbo dilutior, ubique crebre et subtiliter punctulatus (punctis in elytris vix obsoletioribus et vix remotioribus); capite maculis duabus lateralibus ante oculos, antennis (clavâ exceptâ), palpis (articulo 2do ad basin interdum excepto) tarsisque rufo-testaceis; coleopteris seriebus tribus irregularibus punctorum majorum utrinque longitudinaliter notatis.

Mas: tarsorum unguiculis fere angulatim curvatis, ad basin dente valido instructis.

Fcem.: tarsorum unguiculis ad basin dente minore instructis.

Long. corp. lin. circa $2\frac{3}{4}$ -3.

Var. β.—Subangustior, prothorace obsoletius punctato, palpis omnino testaceis (nec articulo 2do basi infuscato). [*Fuerteventura*.]

Var. γ.—Pallidior, sed palporum articulo 2do basi infuscato. [*Fuerteventura*.]

Var. δ.—"Var. γ" similis, sed palpis omnino pallidis. [*Porto Santo*.]

Var. ε.—"Var. δ" similis, sed corpore nigrescentiore; aut "var. β" similis, sed prothorace distinctius punctato. [*Porto Santo*.]

Hydrophilus melanocephalus, Brullé [*nec* Oliv. 1795], in Webb et Berth. (Col.) 58 (1838). *Philhydrus politus*, Küst., Käf. Eur. 18·9 (1849). *Philhydrus atlanticus*? Blanch., in voy. au Pole Sud, Zool., iv. 51 (1853). *Philhydrus melanocephalus*, Woll. [*nec* Oliv. 1795], Ins. Mad. 98 (1854); Id., Cat. Mad. Col. 32 (1857); Id., Cat. Can. Col. 91 (1864); Id., Col. Atl. 77 (1865). *Philhydrus politus*, Sharp, Ann. Nat. Hist. 14 (1870).

Hab.—Maderenses (*Mad.*, *Pto Sto.*), et Canarienses (*Lanz.*, *Fuert.*, *Can.*, *Ten.*, *Gom.*); in aquis et aquosis, hinc inde vulgaris.

Although presenting many slight differences, both in colour and strength of punctation, according to the locality in which it is found, this appears to be the universal *Philhydrus* in the Madeiran and Canarian archipelagos; and I doubt not that it will be detected eventually in every one of the islands where there is sufficient water for its existence during the drier seasons. It swarms in the brackish streams of Porto Santo, in the Madeiran Group; and it has also been captured by Senhor Moniz in the Salinas at Paul do Mar, in the west of Madeira proper. At the Canaries, I have myself met with it in Lanzarote, Fuerteventura, Grand Canary, Teneriffe, and Gomera,—in the first two and last of which it was found likewise by Mr. Gray, and in the last by the Messrs. Crotch.

Fam. CORYLOPHIDÆ.

p. 91 (genus *SACIUM*).

(Sp. 262) *Sacium pusillum*.

A late revision by Kraatz (*Berl. Ent. Zeitsch.* xiii. 283) of the European members of this genus, and of *Arthrolips*, has elicited the remark that, in his opinion, the Madeiran *Sacium* which I have hitherto referred to the *S. pusillum*, Gyll., of northern Europe, is in reality distinct; and he has, consequently, proposed for it the specific title of *maderæ*. It is to Mr. Rye that I am indebted for drawing my attention to Kraatz's exact observations on the subject; and it would appear that Gyllenhal's true *pusillum* (which has a less extended range than what is usually supposed, all the examples which had come under Kraatz's notice being from Finland) is larger and more finely punctured than the Madeiran species, as well as darker in colour, and with the hinder margin of its prothorax conspicuously bordered with brown. He then compares the Madeiran insect with the *obscurum*, Sahlb. (= *pusillum*, Redt., nec Gyll.)—a species found in central Europe—and adds that, while in the *obscurum* the third tarsal joint is only slightly shorter than the

second, it is in the Madeiran insect scarcely half as long: and, also, that whilst the second joint of the antennal club is, in the *obscurum*, much smaller than those which are contiguous to it [as in the typical *Anisotomidæ*], the species from Madeira has that articulation distinctly larger than the preceding one.* Hence, since it can be referred neither to the *pusillum* of Gyllenhal, nor yet to the *obscurum* of Sahlberg, and it clearly is not conspecific with either the *nanum* of Mulsant, nor the *brunneum* of Brisout (the two other species hitherto acknowledged as European), Dr. Kraatz regards it as distinct; and I may, therefore, cite its amended synonymy as follows:—

Sacium maderæ.

Clypeaster pusillus, Woll. [*nec* Gyll., 1810], Ins. Mad. 474 (1854); Id., Cat. Mad. Col. 140 (1857). *Sacium pusillum*, Id., Col. Atl. 91 (1865). *Sacium maderæ*, Kraatz, Berl. Ent. Zeitsch. xiii. (1869).

Hab.—Maderenses (*Mad.*, *Des.*); in graminosis intermediis, passim.

p. 91 (genus *ARTHROLIPS*).

(Sp. 264) *Arthrolips obscurus*.

From the synonyms of this species the *Cossyphus obscurus*, Sahlb., must be erased,—Sahlberg's insect, according to Kraatz, being (as above implied) a true *Sacium*, and not an *Arthrolips*. Hence, since the title of *obscurus* for this insect (*assuming it to be identical with the south-European one*) rests on a mere catalogue (that of Dejean's) it cannot be retained, and we are compelled to adopt (as, in point of fact, I did in my 'Ins. Mad.' and 'Cat. Mad. Col.') Comolli's name of *piceus* instead. And I will therefore cite the species afresh, thus:—

* I called special attention to this fact at p. 90 of the 'Col. Atl.' where, judging from the sole material to which I had access (namely, the exponents from Madeira), I stated that the only genera in the *Corylophidæ* in which that particular structure (namely, the reduced proportions of the second joint of the antennal club) is not indicated were *Sacium* and *Arthrolips*.

Arthrolips piceus.

Clypeaster obscurus, Dej., Cat. 129 (1821). *Clypeaster piceus*, (Kunze), Comolli, De Nov. Col. 50 (1837). *Gryphinus piceus*, Redt., Fna. Austr. 574 (1849). *Arthrolips piceum*, Woll., Ins. Mad. 476 (1854); Id., Cat. Mad. Col. 142 (1857). *Arthrolips obscurus*, Duval, Gen. des Col. d'Eur. ii. 232 (1859); Woll., Col. Atl. 91 (1865).

Hab.—Maderenses (*Mad.*, *Des.*), et Canarienses (*Ten.*); in inferioribus intermediisque, hinc inde vulgaris.

Fam. PTILIADÆ.

p. 96 (genus ACROTRICHIS).

After species 274 insert:—

Acrotrichis brevicornis.

Acrotrichis brevicornis, Mots., Bull. de Mosc. 174 (1868).

Hab.—Maderenses (*Mad.*); sub quisquiliis in intermediis degens.

Mixed-up with my examples of the *A. atomaria*, from the intermediate districts of Madeira, are a certain number which are said to differ slightly from the rest (but the "differences" in which are to my eye totally inappreciable), and which constitute the form for which Motschoulsky has recently proposed the name of *brevicornis*. During our late visit to the island we met with it both in the region of "the Mount" and in that of S. Antonio da Serra; but until the Monograph of Mr. Matthews makes its appearance I will not attempt to give a regular diagnosis of the "species," or to do more than just allude to the fact of its acknowledgment both by him and by Motschoulsky. All indeed that the latter (who cites "*Dalmatia*" for its habitat, as well as Madeira) says concerning it is as follows:—"Forme entièrement de l'*atomaria*, mais moitié plus petite, luisante à ponctuation très fine, pubescence sur les élytres assez forte, pattes testacées, antennes noirâtres, ne dépassant pas en longueur les angles post. du corselet."

(Sp. 275) *Acrotrichis anthracina*.

This *Acrotrichis*, which was enunciated by Mr. Matthews in 1865 from the Canarian material of the Messrs. Crotch, is stated by the former to have since been captured by himself in England (namely, during the summer of 1867, in Sherwood Forest),—so that the species, like so many others in this family, is a European one. Speaking of his British examples, Mr. Matthews says (*Ent. Month. Mag.* v. 10; 1868) “The *anthracina* is a distinct and well-marked species; it belongs to the first division of the genus, which comprises the *atomaria*, and others, whose thorax is much dilated at the base, with its posterior angles produced beyond the shoulders of the elytra; but from all these it may easily be known by its small size, and short black antennæ;” and as he then characterizes it afresh, it may be desirable perhaps to give his emended diagnosis,—stating the references up to the present date.

Acrotrichis anthracina.

A. ovata, maribus postice valde attenuata, valde convexa, nigra, nitida, pilis brevibus argenteis parce vestita, capite modico, antice elongato, oculis sat magnis, prominulis; pronoto modico, valde convexo, postice dilatato, tuberculis sat magnis, ordinibus irregulariter sinuatis confertim dispositis, interstitiis nitidis, subtiliter reticulatis, ornato, lateribus rotundatis, late marginatis, angulis posterioribus valde productis, acutissimis; elytris longioribus, maribus valde attenuatis, ordinibus sat remotis, sinuatis, modice asperatis, lateribus fere rectis, leviter marginatis, apicibus vix dilutioribus, vix rotundatis; pedibus læte flavis; antennis brevioribus, piceo-nigris.

Long. corp. lin. $\frac{1}{3}$.

Trichopteryx anthracina, Matth., *Ent. Month. Mag.* ii. 35 (1865). *Acrotrichis anthracina*, Woll., *Col. Atl.* 98, et *Append.* 14 (1865). *Trichopteryx anthracina*, Matth., *Ent. Month. Mag.* v. 10 (1868).

Hab.—Canarienses (*Gom.*); à DD. Crotch parce deprehensa.

(Sp. 279) *Acrotrichis Montandonii*.

From the synonymy of this Madeiran *Acrotrichis* the first two lines must be erased, for Mr. Matthews (who originally identified it with the European *A. Montandonii*) now informs me that he is inclined to accept the opinion of Motschoulsky—who has recently cited (I will not say “described”) it, under the name of “*nigricornis*,” as distinct from that species. Until Mr. Matthews’ Monograph shall have made its appearance I will not presume to say what its exact differential characters may be, or how it is undoubtedly separable from the *A. Montandonii*; but, acting on the step taken by Motschoulsky (and subsequently endorsed by Mr. Matthews), I will merely call attention as follows to the change in the synonymy,—adding also that I find an example in my possession which was captured by myself on one of the other islands of the Madeiran archipelago, namely the Deserta Grande.

Acrotrichis nigricornis.

Acrotrichis pumila, Woll. [*nec* Erich.], Ins. Mad. 109 (1854); Id., Cat. Mad. Col. 35 (1857). *Acrotrichis insularis*, Id. [*nec* Mann.], Ann. Nat. Hist. viii. 109 (1861). *Acrotrichis Montandonii*, Id. [*nec* Allib.], Col. Atl. 99 (1865). *Acrotrichis nigricornis*, Mots., Bull. Mosc. 174 (1869) [sec. Matthews].

Hab.—Maderenses (*Mad.*, *Des.*); hinc inde in sub-inferioribus intermediisque, inter quisquilias.

I should add, perhaps, that Motschoulsky’s “description” of it is as follows: “Taille, forme et couleurs de la *depressa*, Gillm., mais plus convexe, plus luisante, corselet large postérieurement, avec ses angles p. un peu aigus et saillants, antennes entièrement foncées même leurs premiers articles, pas plus longues que le corselet, élytres parallèles.”

(Sp. 280) *Acrotrichis Guerinii*.

This *Acrotrichis* was defined by myself in 1857, as the “*obsœna*”—a title, however, which I was compelled subsequently to sink into a synonym on account of the species having been identified by Mr. Matthews with the

Guerinii of Allibert. But lately Mr. Matthews has altered his opinion (having met with the same exact form in England as the Madeiran one), and has come to the conclusion that it is, after all, distinct from the *Guerinii*; so that my original title of *obscaena* is again adopted by him. Hence I have no choice (in the face of so high an authority) but to suppress the name under which it is cited in the 'Col. Atl.,' and revert (as below) to that under which I first enunciated it in my Madeiran Catalogue. Mr. Matthews' British example was captured by himself, during the summer of 1867, in Sherwood Forest; and in his published observations concerning it, he remarks (*Ent. Month. Mag.* v. 10; 1868) that it "belongs to a group of which the *Guerinii* may be considered as the type, and all of which have pale or rufescent elytra, and the thorax scarcely dilated at the base." And he subsequently observes "when I mounted the specimen I had taken at Sherwood, I was much struck by the appearance of its sculpture; this led to further examination, and I found that, though differing from the *Guerinii*, it coincided exactly in this respect with *obscaena*, and that both also differed from *Guerinii* in the comparative length of the elytra, and a few other points of minor importance. I therefore feel no doubt that *obscaena* is distinct from *Guerinii*, and that Mr. Wollaston's name must be restored to the species." Mr. Matthews having given an emended diagnosis of the *A. obscaena*, I may as well (as in the case of the *anthracina*) insert it as follows, adding at the same time its corrected synonymy:—

Acrotrichis obscaena.

A. oblonga, elongata, valde convexa, capite atque pronoto nigris, elytris nigro-castaneis, pilis brevibus flavescens parce vestita, capite magno, sat elongato prominulo, oculis vix prominentibus; pronoto modico, postice vix dilatato, tuberculis sat magnis, ordinibus interruptis dispositis, interstitiis nitidis, confertim reticulatis ornato, lateribus levissime marginatis, leviter rotundatis, angulis posterioribus acutis, vix productis; elytris brevioribus, quadratis, haud attenuatis, ordinibus transversis, interruptis, sat profunde asperatis, suturâ elevatâ, apicibus valde rotundatis; antennis brevioribus, nigropiceis; pedibus flavis.

Long. corp. lin. circa $\frac{1}{3}$.

Acrotrichis obscæna, Woll., Cat. Mad. Col. 35 (1857).
Acrotrichis Guerinii, Id. [nec Allib., 1844], Col. Atl. 100
 (1865). *Trichopteryx obscæna*, Matth., Ent. Month.
 Mag. v. 12 (1868).

Hab.—Maderenses (*Mad.*), et Canarienses (*Gom.*);
 præcipue sub stercore bovino et equino in locis inferiori-
 bus degens.

After species 281, add:—

Acrotrichis ovatula.

Acrotrichis ovatula, Mots., Bull. Mosc. 175 (1869).

Hab.—Maderenses (*Mad.*); inter quisquilias in ipsâ
 urbe Funchalensi à meipso sat copiose reperta.

Had I only Motschoulsky's short observation (which
 takes the place of a diagnosis) to judge from, I should
 have been utterly unable to form any idea whatsoever
 about this nevertheless well-marked little *Acrotrichis*;
 but since so high an authority as Mr. Matthews is satis-
 fied that it must pertain to a minute species of which I
 captured many examples, amongst refuse, in a garden in
 Funchal, I am content to cite it accordingly. It is the
 smallest *Acrotrichis* proper which has hitherto been de-
 tected in any of these Atlantic islands, being but slightly
 larger than the *Nephanes Titan*; and my specimens were
 all of them taken by sifting rubbish in the garden of the
 Quinta dos Jasmineiros, on the western outskirts of
 Funchal. Motschoulsky's "description" of it is as
 follows:—"Forme et couleurs voisines de celles de la *de-
 pressa*, Gillm., iv. 3, mais un peu plus petite et plus con-
 vexe, élytres et antennes plus courtes, les premières plus
 rétrécies vers la base; ponctuation assez forte, pubescence
 éparsse, antennes obscures."

p. 101 (genus PTENIDIUM).

(Sp. 283) *Ptenidium lævigatum*.

This Canarian *Ptenidium* was originally identified by
 Mr. Matthews (apparently from Erichson's diagnosis)
 with the European *P. lævigatum* of Gillmeister; but Mr.
 Matthews now informs me that, having since received

continental types of the latter, he finds that the species from the Canaries is in reality distinct; and he has consequently proposed for it, in his Monograph of the family (which is already in the press), the name of *Bruckii*. Without therefore attempting to anticipate Mr. Matthews' diagnosis, I will just call attention to the fact—that the synonymy of the species will, consequently, have to be thus emended:—

Ptenidium Bruckii.

Ptenidium lævigatum, Woll. [nec Gillm.], Cat. Can. Coll. 104 (1864); Id., Col. Atl. 101 (1865). (*Ptenidium Bruckii*, Matth., Mon. Trichopt.).

Hab.—Canarienses (*Can.*, *Ten.*, *Gom.*, *Palma*, *Hierro*); sub quisquiliis in inferioribus intermediisque, late sed parce diffusum.

(Sp. 284) *Ptenidium apicale*.

The Atlantic examples of this *Ptenidium* (so abundant throughout the Madeiran and Canarian archipelagos) differ a *little* from the ordinary ones of the *P. apicale*, of more northern latitudes; but Mr. Matthews until lately did not think that the points of discrepancy were of sufficient significance to indicate more than a very slight geographical variety of the common European species. Motschoulsky, however, in a recent paper on the *Ptiliadae*, having separated the Atlantic form under the name "*atomaroides*" (stating, moreover, that it occurs likewise in Georgia and Dalmatia), Mr. Matthews is inclined now to acknowledge it as distinct; and I have no choice, therefore, with such an authority before me, but to do so likewise. Motschoulsky gives no formal diagnosis of his *P. atomaroides*, but makes the following remark: "Forme et couleurs voisines de celles de l'*apicalis*, Gillm. viii. 2, mais toujours plus grand et plus large aux élytres, ce qui lui donne l'aspect trapu du *pusillum*; de chaque côté de la base du corselet on voit une impression transversale fovéiforme et sur le milieu des vestiges de deux points; élytres ponctuées par des points très-fins, disposés en stries et garnis chacun d'un poil assez long." Accepting therefore the *atomaroides* as distinct from the European *P. apicale* (which I must confess that I do with considerable reluctance), the synonymy of the species will require to be emended thus:—

Ptenidium atomaroides.

Ptenidium apicale, Woll. [*nec* Gillm., 1845], Ins. Mad. 110 (1845); Id., Cat. Mad. Col. 37 (1857); Id., Cat. Can. Col. 104 (1864); Id., Col. Atl. 101 (1865). *Ptenidium atomaroides*, Mots., Bull. Mosc. 191 (1869).

Hab.—Maderenses (*Mad.*, *Des.*), et Canarienses (*Fuert.*, *Can.*, *Ten.*, *Gom.*) ; inter quisquilias, vulgare.

p. 102 (genus PTINELLA).

(Sp. 287) *Ptinella Proteus*.

Of this *Ptinella*, so abundant locally beneath the damp rotting bark of trees within the cultivated districts of Madeira, it appears necessary once more to alter the name under which it must be cited,—Mr. Matthews having received types from Dr. Heer which prove it to be conspecific with his *Trichopteryx testacea*. Its synonymy, therefore, so far as I am able to ascertain, would seem to be as follows ; though whether the species is truly distinct, as I very much doubt, from the one which I have quoted on Mr. Matthews' authority (*vide* Col. Atl. 102) as the *P. aptera*, Guer., from the Canarian archipelago I will not undertake, at any rate until Mr. Matthews' Monograph has been published, to decide.

Ptinella testacea.

Trichopteryx testacea, (Chevr.), Heer, Fna. Col. Helv. 376 (1841). *Ptinella aptera*, Woll. [*nec* Guer.], Ann. Nat. Hist. viii. 101 (1861). *Trichopteryx ratisbonensis*, Id. [*nec* Gillm.], *ibid.* x. 341 (1862). *Trichopteryx Proteus*, Matth., in Zool. xx. 8262 (1862); Woll., Col. Atl. 103 et Append. 15 (1865).

Hab.—Maderenses (*Mad.*) ; sub cortice laxo humido, hinc inde in intermediis inferioribusque vulgaris.

Fam. NITIDULIDÆ.

p. 110 (genus MELIGETHES).

(Sp. 311) *Meligethes echii*.

I think it very doubtful whether the few Canarian examples which were taken by the Messrs. Crotch in

Teneriffe, Gomera, and Hierro, and which I cited as rather aberrant individuals of the Madeiran *M. echii*, are more in reality than a somewhat large variety of the *M. seniculus* (= *tristis*, mihi, nec Sturm); at any rate the only specimen to which I now have access belongs manifestly to that species: and if this should prove to be the case, it will follow that the *M. echii* has been observed hitherto only in Madeira.

I may just state, however, that the typical *M. echii* (which occurs on the flowers and woolly foliage of the gigantic *E. candicans* of intermediate elevations, in the Madeiran archipelago) is certainly distinct from the (much smaller and darker-limbed) *M. seniculus*; so that the note at p. 111 of my 'Col. Atl.', which calls this point in question, requires to be qualified.

(Sp. 312) *Meligethes tristis*.

According to Mr. Rye this *Meligethes* is not the *tristis*, of Sturm, as I have hitherto imagined, but Erichson's *seniculus*—a species equally European in its range. Whether however it is attached to plants of the *Echium* group in the Atlantic islands, as it would appear to be in more northern countries, I am unable to say; though perhaps, on enquiry, this will be found to be the case. "The true *tristis*," Mr. Rye observes, "is more ovate and less depressed than the *seniculus*, as also broader, darker, and with less and lighter pubescence; its prothorax, too, is more contracted in front, its hinder tibiæ are wider, and the anterior ones are a trifle narrower." Mr. Crotch was evidently mistaken when, recording (*Proc. Zool. Soc. Lond.* 371; 1867) the *M. incanus* from the Azores (on the strength of a single individual taken in Fayal), he remarked that "the *M. tristis* of Mr. Wollaston's work must probably be referred to it [*i.e.*, to the *incanus*]." Whatsoever Mr. Crotch's insect may be, the Madeiran and Canarian one at all events is totally distinct from the European *M. incanus*—which is very like the *umbrosus*, but not so broad, most densely punctured, with its legs picescent, and its anterior tibiæ considerably dilated towards the apex—where there are three pretty conspicuous teeth externally. The corrected synonymy, therefore, of the species will stand thus:—

Meligethes seniculus.

Meligethes seniculus, Erich., Nat. der Ins. Deutsch. iii. 192 (1845). *Meligethes tristis*, Woll. [*nec* Sturm.], Ins. Mad. 124 (1854); Id., Cat. Mad. Col. 41 (1857); Id., Cat. Can. Col. 113 (1864); Id., Col. Atl. 111 (1865).

Hab.—Maderenses (*Mad.*, *Pto. Sto.*, *Des.*), et Canariensis (*Can.*, *Ten.*, *Gom.*, *Palma*, *Hierro*); ad flores vulgaris.

(Sp. 313) *Meligethes picipes.*

This *Meligethes* appears to be correctly identified with the European *M. picipes*, according to Mr. Rye—who however observes that the Madeiran examples are, on the average, a trifle larger than the ordinary British ones.

(Sp. 314) *Meligethes virescens.*

Mr. Rye informs me that this Canarian *Meligethes* (like the Madeiran *M. echii*) is quite unknown to him; and in all probability, therefore, it is not a European species.

(Sp. 315) *Meligethes varicollis.*

Concerning the Canarian form which I cited as a “var. β ” of this Madeiran *Meligethes* I have always had considerable doubt, though my desire not to multiply species unnecessarily induced me to register it as in all probability a geographical phasis of the latter. Yet a re-examination of the two, added to the decidedly-expressed opinion of Mr. Rye that they must be truly distinct, inclines me to correct what I feel now would almost certainly be regarded as a mistake by any Coleopterist who may have made this group his particular study; and in order therefore to point out the discrepancies between them, I think it will be desirable, whilst enunciating the Canarian species as a new one, to give also an emended diagnosis of the *M. varicollis*—its already described Madeiran ally.

Meligethes varicollis.

M. ovato-oblongus, convexus, aut æneo- aut cyaneo-viridis, grosse fulvo-cinereo pubescens, densissime

punctatus; prothorace latiusculo; antennis pedibusque ferrugineis; tibiis anticis latis, extus minute sed subinæqualiter serratis.

Var. β. [an sexualis distinctio?]—prothoracis lateribus, antennis pedibusque testaceis.

Long. corp. lin. $1\frac{1}{4}$.

Meligethes varicollis, Woll., Ins. Mad. 126 (1854); Id., Cat. Mad. Col. 41 (1857); (pars); Id., Col. Atl. 112 (1865).

Hab.—Maderenses (*Mad*); ad flores in sylvaticis intermediis, rarissimus.

An exceedingly rare *Meligethes*, being confined so far as I have hitherto observed to the intermediate sylvan districts of Madeira proper—where I have taken it, during the summer months, at the Ribeiro Frio and elsewhere.

Meligethes Ryei, n. sp.

M. ovato-oblongus, convexus, æneo-viridis, fulvo-cinereo pubescens, dense et profunde punctatus; antennis pedibusque ferrugineis; tibiis anticis latis, extus sat grosse sed inæqualiter serratis.

Long. corp. lin. $1\frac{1}{4}$.

Meligethes varicollis, (pars), Woll., Cat. Can. Col. 112 (1864); (pars); Id., Col. Atl. 112 (1865). *Meligethes erythroga*, Hart. [*nec* Mshn.], Geolog. v. Lanz. und Fuert. 140.

Hab.—Canarienses (*Lanz.*, *Fuert.*, *Ten.*); hinc inde ad flores, haud infrequens.

Obs.—Speciei præcedenti affinis, sed differt præcipue corpore profundius ac paulo minus dense punctato et pube sub-breviore sericato, prothorace (nisi fallor) semper concolori, ad latera sensim minus rotundato, quare angulis posticis paulo minus obtusis, antennis sublongioribus, necnon tibiis anticis extus (conspicue) grossius ac magis inæqualiter serratis.

Species in honorem E. C. Rye, inter Entomologicos Britannicos longe lateque celebris, ob gratis amicissime oblatas dicata.

As I have already stated elsewhere, this fine *Meligethes* is far from uncommon in the two eastern islands (Lanzarote and Fuerteventura) of the Canarian Group, but so far as I have observed hitherto it seems to be scarcer in the more western parts of the archipelago: nevertheless I have met with it sparingly in Teneriffe. Although with much the same brassy-green hue and pallid limbs as its Madeiran ally (the *M. varicollis*), it differs in being much more coarsely, and rather less closely, punctured than that insect, and clothed with a rather shorter sericeous pubescence; its prothorax (which is a trifle less rounded at the sides, and with consequently the hinder angles somewhat less obtuse) is apparently always concolorous (never being diluted in hue towards either external edge); its antennæ are appreciably shorter; and the outer edge of its anterior tibiæ are more powerfully (though unequally) serrate.

Fam. MONOTOMIDÆ.

p. 118 (genus MONOTOMA).

Motschoulsky has lately informed us (*vide* Bull. Mosc. 196; 1869) that he considers Lacordaire was mistaken in citing only three joints for the tarsi, and ten for the antennæ, in *Monotoma*, and in consequence placing it amongst the *Latridiidae*; for, in point of fact, the feet are tetramerous and the antennæ (as he asserts) composed of eleven articulations: and he argues therefore that, both in structure and habit, it belongs more properly to the *Colydiens* “a côté des *Pycnomèrides*.” Although I believe that Motschoulsky is incorrect as regards the antennæ, which seem to me to have but ten joints (the terminal one being completely lost, or swallowed-up, within the apex of the *one-articulated* club), he is evidently right about the tarsi; and the conclusion which he comes to about the affinities is exactly the same as I had myself arrived at twelve years before (*vide* Cat. Mad. Col. 67), though I did not so far deviate from the usually-received opinion as actually to place the genus amongst the *Colydiadæ*. In my ‘Canarian Catalogue’ however, in 1864, I made the alteration, and during the following year adopted the same position in my ‘Coleoptera Atlantidum’—though assigning it to a separate family, instead of to the Endophlœideous section of the *Colydiadæ*.

Fam. ENDOPHLEIDÆ.

p. 120 (genus *TARPHIUS*).

After species 338, add:—

Tarphius lutulentus, n. sp.

T. subcylindrico-oblongus, subopacus, piceo-niger, setulis brevissimis fulvescentibus parce obsitus; prothorace subquadrato (ad latera paululum subæqualiter facile rotundato), vix canaliculato; elytris concoloribus, rugose substriato-punctatis, fere simplicibus (*i. e.*, interstitiis alternis vix etiam obsolete interrupto-elevatis); antennis (breviusculis) pedibusque vel rufo-piceis, vel piceo-ferrugineis; tarsis (nisi fallor) in utroque sexu simplicibus, similibus.

Long. corp. lin. $1\frac{1}{3}$ -2.

Tarphius inornatus (*pars*), Woll., Cat. Mad. Col. 43 (1857).

Hab.—Maderenses (*Mad.*); castaneta pinetaque in montibus supra Funchal sita (præcipue inter 1700' et 2000' s. m.) colens,—vel sub ligno humi jacente vel sub cortice laxo emortuo, vulgaris.

Obs.—*T. inornato* (et *spinipedi*, olim.) plerumque paulo minor angustior, vix minus rugose sculpturatus, et setulis etiam sub-brevioribus (sc. brevissimis) obsitus, prothorace antice subangustiore, elytrorum interstitiis fere simplicibus (*i. e.*, minus evidenter subelevatis), antennis obsolete brevioribus, pedibus sæpius paululum minus obscuratis, necnon præcipue (ut mihi videtur) tarsis in utroque sexu simplicibus, nec in maribus subtus spinosis.

When compiling my Madeiran Catalogue, in 1857, I felt it necessary to *unite* the *T. inornatus* and *spinipes* (both of which had been published in the '*Ins. Mad.*'),—further material having convinced me that the type on which I had established the latter was but a highly organized male, in reality, of the former, in which the front feet were quite as powerfully armed as the hinder ones; and every opportunity for observation has since satisfied me that I was correct, for the male tarsi of the *inornatus* are eminently variable as to the exact amount of their development,—occasional examples having only the posterior pair conspicuously spined, whilst in others (and indeed

in most) the spinule is *more or less* decidedly expressed in the anterior ones likewise. But whilst recording this fact, I distinctly expressed my belief that *perhaps* two species might nevertheless be concealed under the "*T. inornatus*" as *then limited*,—seeing that all the specimens, some thirty in number, which I had taken in the *south* of Madeira (where they occur, for the most part, beneath the bark and chippings of Spanish-chestnut trees and Firs on the mountains above Funchal) were not only a little smaller and narrower, but had their antennæ just perceptibly shorter, than those from the interior and north of the island; whilst at the same time the still more remarkable circumstance remained that *the whole of these southern individuals* (so far at least as the mere fact of their feet being *simple* enabled me to judge) *appeared to be females!*

Now it is this particular form (from the mountain-slopes in the south of the island), which appears to have its feet simple in both sexes, and which I admitted reluctantly into my emended diagnosis of the *inornatus* in 1857, that I have enunciated above under the title of *lutulentus*; and I will distinctly state that were it not for the apparent similarity of the male and female tarsi, I should scarcely perhaps have regarded it even now as more than a small and depauperated variety of that species. Yet the fact (if true) is so structurally important that I cannot but lay greater stress, in consequence, upon certain other minute characters which *per se* I might have looked upon as insignificant—even though they are sometimes so faintly appreciable that specimens are with difficulty separated from *female* ones of the *inornatus*. Indeed (apart from its feet) the *lutulentus* would seem mainly to differ from the *inornatus* in being on the average a little smaller and narrower (its length ranging from $1\frac{1}{3}$ to 2 lines, whereas that of the latter ranges from 2 lines to $2\frac{1}{3}$), a trifle less coarsely sculptured, and beset with, if possible, even shorter setæ still, in its prothorax being just appreciably (in proportion) less widened in front, in its alternate elytral interstices having a still less tendency to be obsoletely raised and interrupted (being, in point of fact, almost simple), and in its antennæ being if anything a little shorter, and its legs usually somewhat less darkened.

That the tarsal character however of the *lutulentus* is a real one appears more than probable from the fact that

I have lately examined 203 examples of it (taken during the last winter and spring in the chestnut-woods at "the Mount," above Funchal) without being able to discover a single individual which has even the slightest tendency to a spiniform development about the feet, and it is hardly likely that amongst such a mass of material both sexes should not be represented,—more particularly since in the case of the true *inornatus* (found in the more central and northern districts of the island) the males and females are numerically in about equal proportions. And indeed if we further take into account the individuals which I overhauled a few years ago, I must have seen, at the very lowest computation, 250 of them, and have yet been unable to detect any trace of the particular structure which is so conspicuous in the *inornatus*, and which we have been now considering.

(Sp. 348) *Tarphius Wolffii*.

The excessive difficulty attending the determination of some of the *Tarphii*, and (above all) the separating of the sexes in certain of the unarmed species, must be my excuse for feeling compelled to suppress the present one—which was founded in 1865 on two Madeiran examples which were taken by Dr. C. Wolff in the chestnut-plantations at "the Mount," above Funchal. Even now, however, I cannot but acknowledge the very great *primâ facie* difference which exists between small and comparatively un-nodose specimens (such as those from which my diagnosis of the *T. Wolffii* was drawn out) and the much larger and more roughened ones which seem nevertheless to merge gradually into the others, and which represent the species which I described (from a unique individual, in 1854) under the title of *rugosus*. Yet remembering how greatly the sexes in many of the forms recede from each other, both in size and development of their elytral callosities, I have little doubt (after a careful inspection of fifty individuals which were taken at "the Mount" during the past winter and spring) that the smaller ones, in which the lumps are less elevated (though usually more rufescent), and which constitute my *T. Wolffii*, are merely the (unarmed) males of the larger and rougher ones; and I would therefore sink the *T. Wolffii* as a synonym of the previously-enunciated *T. rugosus*,—believing that all future observations will tend

equally to necessitate that step.* I may just state, however, that without a sufficient series to judge from it is highly probable that collectors will hereafter be found, from time to time, who perhaps may feel inclined to reinstate the *T. Wolffii* as distinct; yet I nevertheless cannot see how any line of specific demarcation is to be drawn between any of the examples now before me,—even though some of them may have their prothorax a little more widened before the middle than others, and present at first sight a somewhat different aspect. The greater or less rufescence of the callosities however is in reality more apparent than real, and depends upon the amount of scales and setæ with which they happen to be clothed,—for even the most concolorous individuals when denuded of the latter will be seen to have their elytra obscurely maculated.

Apart from all other points of similarity, the comparatively brown hue and oblong-squarish, posteriorly truncated outline, and densely scaly surface of the whole of my fifty examples give a character to the *T. rugosus*, in all its phases, which when once seen it is impossible to mistake. The following, I may add, is the corrected synonymy of the species as now elucidated:—

(Sp. 354) *Tarphius rugosus*.

Tarphius rugosus, Woll., Ins. Mad. 144 (1854); Id., Cat. Mad. Col. 48 (1857); Id., Col. Atl. 124 (1865); *Tarphius Wolffii*, Id., Ibid. 123 et App. 21 (1865).

Hab.—Maderenses (*Mad.*); in castanetis longe supra urbem Funchalensem, præcipue inter 1700' et 2000' s. m., parce occurens.†

* Considering how closely allied to the *T. truncatus* I regarded the *T. Wolffii*, when I had an opportunity (in 1865) of comparing the latter with my original types now in the British Museum, it may yet be open to inquiry whether the *truncatus* also should not be treated eventually as a variety, or state, of the *rugosus*.

† Before dismissing the Madeiran *Tarphii* I may just call attention to the fact that, during a two months' residence on the mountains above Funchal—in January, February, and March of 1870—we met with the *T. luteolentus* and *nodosus* in profusion, as well as, though less abundantly, the *rugosus* and *compactus*; and the same district produced a few examples of the very rare and interesting *T. angustulus*. A little later in the season a sojourn of two months at S. Antonio da Serra, on the mountains in the east of the island, afforded us the *T. echinatus*—a

p. 128 (genus *PROSTHECA*).

(Sp. 369) *Prostheca aspera*.

Hitherto this interesting little insect has been known only from the single example which was captured, about ten years ago, by the late Mr. Bewicke, at the Quinta da Palmeira, above Funchal; and I was glad, therefore, during our late sojourn in Madeira, to meet with a second. It was taken from beneath the loosened bark of a felled tree in the garden of the Quinta dos Jasminheiros, on the western outskirts of Funchal; so that I was probably mistaken in my conjecture (*vide* Col. Atl. 128) that the species would be found to be of *Euphorbia*-infesting habits.

Fam. CUCUJIDÆ.

p. 131 (genus *LÆMOPHLÆUS*).

After species 379, add :—

Læmophlæus suffusus, n. sp.

L. linearis, depressus, subopacus, sericeo-pubescent, ferrugineus sed in elytris (humeris exceptis) obscurioribus; capite prothoraceque grosse sed haud dense punctatis, illo vix canaliculato, fronte a clypeo (antice recte truncato) haud divisâ, oculis prominentibus, hoc longiusculo postice angustiore angulis posticis fere subrotundatis; coleopteris argute tenuiter striatis, striâ sublaterali costiformi; antennis brevibus, robustis, submoniliformibus.

Long. corp. lin. 1.

Hab.—Maderenses (*Mad.*); exemplar unicum olim cepit Dom. Bewicke.

Obs.—*Læmophlæus* colore subobscurus elytris (humeris exceptis) paulo obscurioribus necnon antennis brevibus robustis moniliformibus *S. axillari* affinis, sed paulo minor, sub-brevior, evidenter minus angustatus, magis depressus

species, although generally scarce, universal throughout that particular region; the *T. lauri* and *nodosus* in considerable numbers, the *compactus* and *inornatus*, both of them more sparingly, the minute *T. Lowei*, abundant (in company with the *Acalles Wollastoni*) amongst lichen on the trunks of various trees, the small, rounded *T. sylvicola*, by sifting fallen leaves and sticks at an elevation of about from 3000 to 4000 feet, the *T. rotundatus*, though not commonly, two examples of the rare and elegant *T. formosus*, and one of the equally scarce *T. angustulus*.

ac magis sericeo-pubescent, labro (ut mihi videtur) brevior, oculis magis prominentibus, capite prothoraceque argutius punctatis sed minus rugosis, hoc (fere ut in *L. clavicollis*) postice angustiore, necnon coleopteris magis regulariter argutiusque striatis et (nisi fallor) costâ unicâ, sc. sublaterali, utrinque solum instructis.

The single example from which the above diagnosis has been compiled was taken in Madeira by the late Mr. Bewicke, but whether near Funchal or in some more remote part of the island I have now no means of ascertaining. In its robust, abbreviated, submoniliform antennæ and rather dark ferruginous hue, the elytra with the exception of the shoulders being of a still obscurer tint, it resembles the *L. axillaris*; nevertheless it appears to be a trifle smaller, and *relatively* a little shorter and broader than that species, and it is likewise rather flatter and more thickly clothed with a coarser sericeous pubescence; its eyes also are more prominent, its upper lip appears to me (judging from the only type to which I have access) to be decidedly shorter, its head and prothorax (the latter of which is narrower behind, as in the *L. clavicollis*) are more distinctly punctured but less rugose, and its elytra are more uniformly and regularly (although delicately) striate, and seem to have only a *single* raised costa, namely a sublateral one, down each.

p. 135 (genus SILVANUS).

(Sp. 387) *Silvanus unidentatus*.

For this *Silvanus*, instead of "*unidentatus*, Oliv.," read *bidentatus*, Fab. A more critical examination of it has convinced me that it should be referred to the latter of those species, rather than (as I had concluded) to the former. And I may add that the *S. bidentatus* differs from the *unidentatus* in being a little larger and more coarsely sculptured, in its limbs being proportionately a trifle longer and its eyes more developed, and in its prothorax (which is more evidently bisulcate down the disc) being a little more sinuate, or less straightened, at the sides, with the anterior angles a good deal more produced, and even the basal ones just appreciably more prominent—so as to occasion the prothorax to appear, relatively, a trifle less narrow behind. During our late sojourn in

Madeira we took the *S. bidentatus* in profusion, from beneath the dead bark of Spanish-chestnut trees, at "the Mount"—about 1700 feet above Funchal, the same locality in which the late Mr. Bewicke met with it (though more sparingly) a few years ago. The following entry into the catalogue will suffice to place on record the corrected synonymy of the species:—

Silvanus bidentatus.

Dermestes bidentatus, Fab., Ent. Syst. i. 233 (1792).
Silvanus unidentatus, Woll. [*nec* Oliv. 1790], Cat. Mad. Col. 53 (1857); Id., Col. Atl. 135 (1865).

Hab.—Maderenses (*Mad.*); in castanetis editoribus longe supra Funchal, sub cortice laxo emortuo, vulgaris.

Fam. CRYPTOPHAGIDÆ.

p. 136 (genus CRYPTOPHAGUS).

(Sp. 390) *Cryptophagus saginatus*.

Until our recent sojourn in Madeira I had seen but two examples of this common European *Cryptophagus* (taken by the late Mr. Bewicke near Funchal) from any of these Atlantic islands; but whilst residing at S. Antonio da Serra, in the spring of 1870, we met with it abundantly, amongst decayed corn and refuse, in a granary adjoining the house in which we were living. In all probability, therefore, the species has become thoroughly established at Madeira,—having doubtless been introduced originally from some more northern country.

After this species (No. 390), add:—

Cryptophagus pilosus.

C. subovali-oblongus, leviter convexus, ferrugineus, pube longiusculâ depressâ dense vestitus, grosse punctatus; prothorace ad latera paululum subæqualiter rotundato, crenulato, angulis posticis argute determinatis sed paulo obtusis, dente anteriore retrorsum acuto, posteriore in medio sito.

Long. corp. lin. 1-1½.

Cryptophagus pilosus, Gyll., Ins. Suec. iv. 287 (1827); Sturm, Deutsch. Fna. xvi. 64, t. 313, f. A (1845); Erich., Nat. der Ins. Deutsch. iii. 352 (1846).

Hab.—Maderenses (*Mad.*); in granario quodam ad S. Ant. da Serra, tempore vernali 1870, sat copiose repertus.

A considerable number of examples of this European *Cryptophagus* were taken by my wife and myself at S. Antonio da Serra, during our late sojourn in Madeira,—amongst rotten corn and refuse, in company not only with the preceding species but also with the *C. affinis* and *dentatus*. Like other insects of similar habits, it has doubtless become naturalized in the island from more northern latitudes.

Fam. LATRIDIADÆ.

p. 148 (genus CORTICARIA).

Motschoulsky having, in his recent enumeration of such members of this genus as were known to him (*vide* Bull. Mosc. 1867), cited no less than four Madeiran *Corticariæ* which he assumed to be new, I have examined his short diagnosis with considerable care, and cannot feel justified in admitting more than *one* of them as indicating a genuine addition to the catalogue. Even that “one” indeed has so much the *primâ facie* aspect of the *C. fulva* (with which it is, for the most part, found in company) that I had until now overlooked it amongst supposed examples of that somewhat variable species; but I think nevertheless that it may be regarded as distinct, and I will therefore give a brief description of it (under Motschoulsky’s name of *ciliata*),—adding at the same time an emended one of what I believe to be the true *C. fulva*, in order to point out more exactly the characteristic features of the two. Of the three other Motschoulskian species I suspect that two (*attenuata* and *unicarinulata*) were founded upon small, accidental varieties, or states, of the *ciliata*, whilst the remaining one (*flavifrons*) may perhaps represent a mere immature individual of my previously-enunciated *C. inconspicua*—of the existence of which he does seem to have been aware. Until further evidence has been adduced I prefer to dispose thus of at any rate three out of the four supposed “species” of

Motschoulsky,—being unwilling to burden the Atlantic list with (to say the least) exceedingly doubtful additions in this rather obscure and insignificant group, and because his diagnoses appear to me fully to warrant the conclusions at which I have arrived.

If we except the *C. crenicollis*, which I admitted into the catalogue in 1854 on the evidence afforded by a single and somewhat unsatisfactory individual which was identified with that species about twenty years ago by Motschoulsky, and which (in the absence of the specimen itself for a re-examination) I cannot but *suspect* may perhaps prove to be but an accidental variety of the *C. fulva* (as now separated from the *ciliata*), the Madeiran *Corticariæ*, so far as I am acquainted with them, are remarkably well-defined, and (I will further add) may be cited in the following order:—

A. Prothorax ad latera crenulatus.—*pubescens*, Gyll.; *ciliata*, Mots.; *fulva*, Mann.; (?) *crenicollis*, Mann.; *maculosa*, Woll.; *fagi*, Woll.; *serrata*, Payk; *inconspicua*, Woll.

B. Prothorax ad latera vel omnino vel fere simplex.—*transversalis*, Gyll.; *rotundicollis*, Woll.; *curta*, Woll.

p. 148. After species 422, add:—

Corticaria ciliata.

C. ovali-oblonga, convexa, subnitida, aut rufo- aut fusco-testacea (antennis pedibusque paulo dilutioribus), longe fulvo-pilosa; capite prothoraceque grosse punctatis, hoc transverso, ad latera rugose crenulato, pone discum foveâ mediâ rotundatâ sed haud profunda impresso; elytris paulo ventricosis, profunde sed subconfuse substriato-punctatis, interstitiis obsoletissime subconvexis.

Long. corp. lin. $\frac{3}{4}$ -1.

Corticaria fulva, (*pars*), Woll. [*nec* Mann. 1844], Ins. Mad. 185 (1854); Id., Cat. Mad. Col. 65 (1857); Id., Col. Atl. 148 (1865). *Corticaria ciliata*, Mots., Bull. Mosc. 55 (1867). *Corticaria attenuata*, ? Mots., Ibid. 67 (1867)—status minor? *Corticaria unicarinulata*, ? Mots., Ibid. 76 (1867)—status minor?

Hab.—Maderenses (*Mad.*); domos in ipsâ urbe Funchalensi præcipue colens; forsân ex alienis introducta.

Obs.—Species a sequenti (*i. e.*, nisi fallor, *C. fulva*, Mann.) parum distincta; differt corpore paulo convexiore et magis ovali (sc. sensim minus oblongo), necnon, præsertim in capite prothoraceque, grossius punctato, et pilis etiam sublongioribus obsito; prothorax magis transversus fovea media magis rotundata et paulo minus profunda impressus, elytra quoque sensim magis ventricosa.

Amongst the Madeiran specimens which I have hitherto, from time to time, assigned to the European *C. fulva* a certain number are more strongly punctured than the rest, and seem to differ also in a few other distinctive characters; and I have little doubt that they represent the particular form (perhaps a truly specific one) which Motschoulsky described, three years ago, under the title of *ciliata*. It is equally common, with what I believe to be the true *fulva*, in the houses of Fulchal,—the two species, which much resemble each other at first sight, being usually met with together; and both have doubtless been naturalized from some more northern country. The *C. ciliata* (if rightly understood, and identified, by me) may be known from the *fulva* in being a trifle more oval and convex (the prothorax being a little wider and more developed, and the elytra somewhat rounder and more ventricose), and clothed with perhaps even a still longer fulvescent pile, in its head and prothorax being much more coarsely punctured, and in the fovea with which the latter is impressed behind being appreciably shallower, as well as a trifle smaller and more rounded. Its colour, too, although often quite as pale as that of what I believe to be the *fulva*, is more frequently of a slightly darker tint—being generally *brownish* testaceous.

The *C. attenuata* and *unicarinulata*, of Motschoulsky, judging from their diagnoses, might well have been erected on accidentally small examples of this species; indeed I possess a specimen, undoubtedly conspecific with the rest, which answers almost exactly to his description of the former, and nearly as well with that of the latter; and until further evidence therefore shall prove the contrary, I must regard them both as referable to the *ciliata*.

(Sp. 423) *Corticaria fulva*.

C. oblonga, subnitida, rufo-testacea (antennis pedibusque paulo dilutioribus), longe fulvo-pilosa; capite pro-

thoraceque alutaceis et leviter punctatis, hoc subquadrato-cordato, ad latera rugose crenulato, pone discum foveâ mediâ magnâ profunda transverso-rotundatâ impresso; elytris subrugulose substriato-punctatis.

Long. corp. lin. $\frac{3}{4}$ -1.

Latridius fulvus (Chevr.), Villa, Cat. Col. Eur. 45 (1833). *Corticaria fulva*, Mann., in Germ. Zeitsch. v. 42 (1844); (*pars*), Woll., Ins. Mad. 185 (1854); Id., Cat. Mad. Col. 65 (1857); Id., Cat. Can. Col. 146 (1864); Id., Col. Atl. 148 (1865).

Hab.—Maderenses (*Mad.*); et Canariensis? (Lanz., ? Ten. ?); præcipue in domibus, una cum specie præcedenti, degens.

As already stated, the present species (which I think is correctly identified with the ordinary European *C. fulva*) differs from the preceding one in being a little less convex and more strictly oblong (the elytra being rather more straightened, or less rounded at the sides), and in its sculpture being less coarse,—the head and prothorax (the latter of which is narrower and more cordate, and impressed with a somewhat larger, deeper, and a little more transverse fovea on its hinder disc) being more evidently *alutaceous*, and studded with comparatively shallow punctures. It is common, in company with the *C. ciliata*, in Madeira—where it may generally be found crawling on the inner walls of the houses; and although I have no access at the present moment to my late Canarian types (which are now in the British Museum), I believe that the "*C. fulva*" recorded by me from Lanzarote and Teneriffe is referable to this species (*i. e.*, to what I regard as the true *C. fulva*), rather than to the *ciliata*.

(Sp. 427) *Corticaria inconspicua*.

Judging from the short diagnosis in the Bulletin de Moscou (p. 66, 1867), it seems highly probable to me that the *C. flavifrons* of Motschoulsky was founded upon an example (perhaps immature) of this insignificant little *Corticaria*—so like at first sight (though certainly distinct from) the common European *C. serrata*; and therefore until further evidence has been adduced I prefer assigning it to the *C. inconspicua*, rather than running the risk

of multiplying "species" in a somewhat obscure group. The *C. inconspicua* is far from uncommon within the inhabited districts of Madeira,—occurring generally in houses and outhouses, and sometimes even under the bark of trees, irrespective of elevation. I originally met with it, in profusion, amongst bones and chippings of wood, in a small outhouse in Mr. Leacock's garden at the Quinta de São João, near Funchal; and during our late campaign we found it beneath the dead bark of Spanish-chestnut trees at "the Mount," as well as at S. Antonio da Serra.

After species 427, add:—

Corticaria transversalis.

C. elongato-ovata, nitidiuscula, piceo-brunnea (antennis, clavâ exceptâ, pedibusque piceo-testaceis), breviter cinereo-pubescent; capite profunde sed prothorace paulo levius ac confuse punctatis, hoc angustulo, subcordato-quadrato, versus angulos anticos obtuse rotundato, angulis ipsissimis posticis minute subrectis, ad latera integro (nec crenulato), pone medium late transversim impresso (impressione maximâ, sublunato-arcuatâ); elytris substriato-punctatis (fere quasi-subcrenulatis).

Long. corp. lin. $\frac{3}{4}$.

Latridius transversalis, Schüppel, in litt.; Gyll., Ins. Suec. iv. 133 (1827). *Corticaria transversalis*, Mann., Mon. 51 (1844).

Hab.—Maderenses (*Mad.*); in montibus longe supra Funchal, in horto quodam (inter quisquilias), semel deprehensa.

A single example of the common European *C. transversalis* was taken by my wife (on the 6th of January, 1870) during our late sojourn in Madeira—namely, amongst vegetable refuse, in the garden of the Quinta do Prazer, at "the Mount," above Funchal; and it is not unlikely that the species may have become naturalized accidentally from more northern latitudes. If such be the case, however, there can be no doubt that it is extremely rare,—for, in spite of a subsequent residence of two months on the actual spot where it was captured, and the most careful collecting from day to day, we

failed to procure even a second. Apart from its dark-brown hue and elongate-ovate outline, it may at once be known from the other Madeiran *Corticariæ* hitherto brought to light by the broad transverse arcuated impression which stretches completely across the hinder region of its (rather narrowed) prothorax.

(Sp. 431) *Corticaria tenella*.

It would appear from the Baron Harold's recent Catalogue that a *Corticaria* was published by Leconte (Proc. Ac. Phil. 301) under the title of *tenella* in 1855; so that the little Canarian species which I described in 1864 will, in consequence, require a new name. I would therefore propose for it that of *delicatula* (which seems to be unappropriated in this genus), and will cite its corrected synonymy thus:—

Corticaria delicatula.

Corticaria tenella, Woll. [*nec* Lec. 1855], Cat. Can. Col. 150 (1864); Id., Col. Atl. 151 (1865).

Hab.—Canariensis (*Can.*, *Ten.*, *Gom.*, *Palma*, *Hierro*); passim.

p. 152 (genus LATRIDIVS).

It is somewhat remarkable that the British *L. nodifer* should have escaped all former observations in the Atlantic islands, for during our late sojourn at Madeira we met with it in profusion throughout the entire district of "the Mount" (from about 1600 to 1900 feet above Funchal), and likewise in scarcely less abundance at S. Antonio da Serra. It was obtained chiefly from amongst garden-refuse, and by sifting, in cultivated spots; and I think it far from unlikely therefore that the species has become accidentally naturalized from some more northern country. At any rate it is an interesting addition to the catalogue, and all the more so since it has been recorded by Mr. Crotch as having been taken likewise in S. Miguel and Fayal at the Azores. The following brief diagnosis will suffice to inaugurate the species into the Madeiran list.

Latridius nodifer.

L. elongato-ovatus, niger vel piceo-niger, valde inæqualis, subnitidus; prothorace subquadrato-cordato, in disco bicostato, necnon utrinque costa secunda flexuosa (in medio evanescente, fracta) instructo; elytris grosse striato-punctatis, interstitiis alternis plus minus interrupte elevatis, interstitio 2do pone medium nodum magnum efficiente, 4to magis costiformi ac magis elevato, subflexuoso sed ante apicem subito terminato, 6to (humerali) recto abbreviato, ante medium evanescente; antennis gracilibus pedibusque picescentioribus.

Long. corp. lin. 1.

Latridius nodifer, Westw., Int. to Ent. i. 155, pl. 13, f. 23 (1839); Steph., Man. Brit. Col. 129 (1839); Crotch, Proc. Zool. Soc. Lond. 373 (1867).

Hab.—Maderenses (*Mad.*); inter quisquilias, præsertim in cultis intermediis, copiose occurrens.

After species 437, add:—

Latridius Watsoni, n. sp.

L. elongato-filiformis, pallidus, subopacus; capite prothoraceque angustissimis, rufo-testaceis, dense punctato-rugosis, illo elongato-quadrato, antice recto sat prominulo, oculis minutis prominentibus, hoc obtriangulari-cordato; coleopteris parallo-ellipticis, dense et grosse striato-punctatis, interstitiis 2do et submarginali alte elevatis, costas duas integras utrinque efficientibus; antennis pedibusque gracilibus, testaceis.

Long. corp. lin. $\frac{3}{4}$.

Hab.—Maderenses (*Mad.*); in domo quodam mox supra urbem Funchalensem a Rev^{do} Dom^o Watson parce deprehensus, cujus in honorem nomen triviale proposui.

Four examples of this remarkable and most elegant little *Latridius* have lately been detected by the Rev. W. B. Watson, crawling on the inner walls of his house—the Quinta do Valle—above Funchal; and I have much pleasure in naming it after its captor, whose indefatigable researches in various branches of natural science, especially conchology, are well known both in the island and elsewhere. Its wholly testaceous hue and marvellously

narrowed outline (the elongate-quadrate head and subcordate prothorax being narrower than in any *Latridius* with which I am acquainted), in conjunction with its minute eyes and parallel-elliptic elytra—which are densely and coarsely striate-punctate, and have their second interstice, as well as the submarginal one, elevated into an unbroken costa extending from the base to the extreme apex,—give it a character which it is impossible to mistake. Its head and prothorax (the anterior portion of the former, containing the mouth-organs, being much developed and prominent) are greatly roughened, and almost scabrose, and its limbs are slender.

The *L. Watsoni*, like most of the *Latridii*, and other insects of similar habits, is manifestly not truly indigenous in Madeira; though it may very possibly have become naturalized in some of the houses of Funchal. Indeed it is far from unlikely that it was originally of even American origin, for there is an example of it in the collection of the British Museum labelled as having been received from Chili.

Fam. MYCETOPHAGIDÆ.

p. 156 (genus SYMBIOTES).

(Sp. 447) *Symbiotes pygmæus*.

According to Tournier (*Pet. Nouv. Ent.* No. 3), who professes to have seen Heer's type, the *Symbiotes pygmæus* is identical with the "*Epuræa rubiginosa*" of that author; and of course, therefore, if this should prove to be the case, the latter specific title (having been published nine years before the other) would have the priority. However I cannot but feel that there must be some mistake either on the part of M. Tournier, or else perhaps in the accidental transposition of Prof. Heer's types,—for, in the first place, there is no species published by Dr. Heer under the actual title of *Epuræa rubiginosa*; Erichson's genus *Epuræa* was not even established until two years after the appearance of the 'Fauna Coleopterorum Helvetica.' There is a "*Nitidula rubiginosa*," it is true, which I fully admit, from its position in the genus, must in all probability be an *Epuræa*; but it is well-nigh incredible, judging from the diagnosis, that it

can have anything whatever to do with the Mycetophagideous genus *Symbiotes*,—Dr. Heer being far too acute a Coleopterist ever to have permitted a totally dissimilar form like the latter to be introduced amongst his ordinary *Nitidulæ*, in the situation moreover which the following specific sequence will show:—*N. flexuosa*, F., *10-guttata*, F., *rubiginosa*, Heer, *silacea*, Hbst., *obsoleta*, F. Moreover, apart from the description itself, the very size given for the *N. rubiginosa* (namely a line and a quarter) renders it quite inapplicable to the *Symbiotes pygmaeus*—which measures from seven-eighths to (at utmost) one line. Until therefore further evidence is adduced, I shall refuse to believe that Heer's insect and Hampe's are even congeneric,—so much more, therefore, conspecific.

Fam. HISTERIDÆ.

p. 168 (genus SAPRINUS).

(Sp. 485) *Saprinus ignobilis*.

In the Appendix to the 'Coleoptera Hesperidum' I called attention to the fact that De Marseul, without stating the reason why, has changed (*L'Abeille*, i. 353; 1864) the title of my *Saprinus ignobilis* into "*S. Wollastonii*." I think it sufficient just to mention this; though until some explanation on his part be forthcoming I cannot believe that the alteration is valid, not knowing on what principle it has been made.

(Sp. 489) *Saprinus nitidulus*.

The name "*semistriatus*" for this common and widely-spread *Saprinus* (which has been cited, also, by Mr. Crotch from the Azores) seems to have the precedence over "*nitidulus*." Hence its synonymy must be thus corrected:—

Saprinus semistriatus.

Hister semistriatus, Hbst., Käf. iv. 306 (1791). *Hister nitidulus*, Fab., Syst. Eleu. i. 85 (1801). *Saprinus nitidulus*, Woll., Ins. Mad. 215 (1854); Id., Cat. Mad. Col. 75 (1857); Id., Cat. Can. Col. 169 (1864); Id., Col. Atl. 171 (1865).

Hab.—Maderenses (*Mad.*), et Canarienses (*Lanz.*, *Can.*, *Ten.*); in cadaveribus, hinc inde abundans.

Fam. APHODIADÆ.

p. 179 (genus OXYOMUS).

The two species which, in my 'Coleoptera Atlantidum' and previous publications, I regarded as *Oxyomi* have been formed (along with many others), by the Baron Harold (Col. Heft. ii. 100-1867), into a distinct group—under the title of *Atænius*; and consequently, since the *O. Heinekeni* has moreover been identified by him with the *Scarabæus stercorator* of Fabricius, they must for the future be cited as follows:—

Atænius stercorator.

Scarabæus stercorator, Fab., Spec. Ins. i. 22 (1781); Oliv., Ent. i. 3-89, t. 17, f. 155 (1789). *Oxyomus Heinekeni*, Woll., Ins. Mad. 228 (1854). *Oxyomus Heinekeni*, Id., Cat. Mad. Col. 79 (1857); Id., Col. Atl. 179 (1865).

Hab.—Maderenses (*Mad.*); sub putridis in inferioribus occurs.

Atænius brevicollis.

Oxyomus brevicollis, Woll., Ins. Mad. 229 (1854); Id., Cat. Mad. Col. 79 (1857); Id., Cat. Can. Col. 191 (1864); Id., Col. Atl. 179 (1865).

Hab.—Maderenses (*Mad.*), et Canarienses (*Gom., Palma*); passim.

Fam. MELOLONTHIDÆ.

It will be sufficient to state here that Blanchard, in his 'Cat. de la Coll. Ent. du Mus. d'Hist. Nat. de Paris,' published in 1850, has described a member of the genus *Hoplia* (under the name of *H. Peronii*) which is said to have been brought [doubtless by M. Péron] from Tenériffe. I can do no more than allude to this fact, for I have had so many instances forced upon my notice of the almost incredible want of accuracy displayed by many French entomologists as regards their professed habitats that it is next to impossible not to suspect that perhaps

some error may have occurred in the citation as "Teneriffan" of the exponent of a group of which I have seen no single representative throughout the numerous islands of these scattered archipelagos. Is it possible that M. Péron may have touched at some Mediterranean country, or island, *en route*, and afterwards mixed-up unintentionally a portion of his *collectanea* from two distinct regions? Be this as it may, I will at any rate, without holding myself responsible for the accuracy of the supposed *habitat*, just cite the short diagnosis of M. Blanchard, in order to call attention to the fact that a *Hoplia* (although totally undetected during any of our recent campaigns) may *possibly* be found to exist in the Canarian Group.

Hoplia Peronii.

"*H. aulica* affinis, sed distincta, prothorace angustiore; elytris oblongioribus, læte viridi-squamosis, pedibus tenuioribus, tibiærumque dente primo minore."

Blanchard, *loc. cit.* 72 (1850).

Hab.—Canarienses? (*Ten.*?) ; mihi non obvia, sed a Dom. Blanchard citata.

Fam. CETONIADÆ.

The observations which I have just made with respect to the *Hoplia Peronii* might be repeated here, for it appears to be on precisely the same authority that M. Blanchard has admitted into his Catalogue a *Trichius* (under the title of *T. Fortunatarum*) which purports to have come from Teneriffe. It is of course possible that the genus may have a representative in the Canarian archipelago, but I have certainly no other evidence of its existence in *any* of the various islands of these widely-scattered Atlantic Groups; and it is at least remarkable that two such conspicuous forms as *Trichius* and *Hoplia* should have escaped our combined researches during so many campaigns, and that yet both of them should be supplied by a single naturalist who appears to have made a passing visit to Teneriffe. I must be excused therefore, under the circumstances, if a slight suspicion should involuntarily arise that there may *perhaps* have been some unintentional mistake in M. Péron's *habitats*;

though as it is of course impossible to ascertain this for certain, I will (as in the case of the *Hoplia* already referred to) cite the diagnosis of M. Blanchard, while at the same time recording my conviction that further evidence is greatly needed in order to establish the species as a truly Canarian one.

Trichius Fortunatarum.

“*T. affinis præcedentibus* [sc. *zonatus*, Germ., *abdominalis*, Sch., et *fasciatus*, Linn.]; thorace depresso, fere quadrato, denudato; elytris aureis, sutura facisque tribus nigris, prima secundaque interruptis.

Du voyage de M. Péron.”

Blanchard, Liste des Cét. du Museum, 21 (1842); Id., Cat. Col. Ent. 47 (1850).

Hab.—Canarienses? (*Ten.* ?); a Dom. Blanchard citatus, sed mihi ignotus. Species dubia, a *T. zonato*, Europæ meridionalis Algeriæque, teste cl. Harold, vix distincta.

Fam. BUPRESTIDÆ.

p. 186 (genus *ACMÆODERA*).

(Sp. 533) *Acmæodera ornata*.

It would seem that there is a Fabrician Buprestid (of which I was not aware) bearing the specific title “*ornata*,” which enters into this genus; and the Baron Harold appears therefore to have proposed for my Fuerteventuran *Acmæodera* the name of *elegans* instead. Hence, the corrected synonymy will be as follows:—

Acmæodera elegans.

Acmæodera ornata, Woll. [*nec* Fab.], Cat. Can. Col. 207 (1864); Id., Col. Atl. 187 (1865). *Acmæodera elegans*, Harold, Col. Heft. v. 223 (1869); Id., Cat. Col. 1410 (1869).

Hab.—Canarienses (*Fuert.*); semel deprehensa.

Fam. MALACHIADÆ.

p. 196 (genus ATTALUS).

(Sp. 573) *Attalus rugosus*.

As in the case of the following species, a rather wider range has been ascertained for the present *Attalus* than what was indicated in the 'Coleoptera Atlantidum.' Until recently it had been observed only on the low sea-cliffs to the westward of Funchal; but during our late sojourn in Madeira we met with it (in company with the *Pteropus rostratus*), amongst flowers, on the Ponta de São Lourenço; and I also perceive that a single example of it has been mixed up with my series of the *Pteropus rostratus* which I collected in Porto Santo about twenty years ago. Hence it would seem to have much the same range, and habit, as that insect; for we may expect that it will be found to occur (at an equally low elevation) on the Desertas likewise. Apart from minor differences, it may readily be known from the *P. maderensis*, to which in outline and general aspect it is much allied, and which is peculiar to the *higher* altitudes of the Madeiran Group, by its more densely roughened and less shining surface, as well as by its flatter head, and by its slenderer and less pallid limbs. The following brief entry will suffice to place on record its more extended range—as lately ascertained.

Attalus rugosus.

Pteropus rugosus, Woll., Ins. Mad. 249 (1854); Id., Cat. Mad. Col. 86 (1857). *Attalus rugosus*, Id., Col. Atl. 202 (1865).

Hab.—Maderenses (*Mad., Pto. Sto.*); ad flores in inferioribus, præsertim juxta mare, sæpe cum *Pteropo rugoso* degens.

p. 202 (genus PTEROPUS).

(Sp. 574) *Pteropus rostratus*.

In the 'Coleoptera Atlantidum' I stated that this insect has been observed only in Porto Santo, and on the two southern Desertas; but during our late visit to

Madeira we met with it, rather abundantly, on the 30th of March, on the Ponta de São Lourenço—the low rocky promontory which stretches out, in the direction of the Desertas, in the extreme east of that island. Hence there is every reason to suspect that it will be found on the northern Deserta likewise, and that the species is consequently *universal* (on the sea-cliffs of a low elevation) throughout the Madeiran Group. It is remarkable however that, so far as Madeira proper is concerned, the São Lourenço promontory would appear to be its peculiar *habitat*; a fact which affords another instance of the curious affinity which that singular tongue of land possesses, not merely with the Desertas (from which it is separated by a channel of only nine miles in breadth), but even (and in a still more remarkable manner) with the more remote island of Porto Santo. I have already mentioned elsewhere that the Desertan examples are, on the average, a trifle larger and more roughly sculptured than those from Porto Santo, with their prothorax just appreciably wider (or less laterally-compressed), and with their tibiæ more or less obscurely darkened; and this state I regarded as a “var. β ,” treating the Porto-Santan ones as *typical*. The specimens from Madeira proper are, I find, almost similar to those from the Desertas; and, moreover, amongst my *original* series from Porto Santo (collected in 1848 and 1850) there are several, I now perceive, which belong to the same rugulose form cited by me as the “var. β ,” though I am not the less persuaded, on that account, that the two states (although perhaps not so strictly “insular” as I had suspected) are but very slightly altered races of a single rather variable type. Nevertheless, in order to define their points of difference more exactly, and to place on record the more extended range of the “var. β ,” I will cite the species afresh as follows:—

Pecteropus rostratus.

status a (typicus).—Plerumque subminor, ac sensim minus rugose sculpturatus, prothorace sub-angustiore, *i. e.*, magis lateraliter compresso, pedibus sæpius omnino pallidis. [ins. *Portus Sanctus*.]

status β (aberrans) *floricola*.—Plerumque submajor, ac sensim magis rugose sculpturatus, prothorace paulu-

lum minus angustato, *i. e.*, sensim minus lateraliter compresso, tibiis sæpius plus minus evidenter obscurioribus. [ins. *Madera, Portus Sanctus, Deserta Grandis, et Deserta Australis.*]

Pecteropus rostratus, Woll., Ins. Mad. 250, tab. iv. f. 9 (1854); Id., Cat. Mad. Col. 86 (1857); Id., Col. Atl. 202 (1865).

Hab.—Maderenses (*Mad., Pto. Sto., Des., Bugio*); ad flores in apricis minus elevatis, tempore vernali, hinc inde vulgaris.

Fam. MELYRIDÆ.

p. 206 (genus *DOLICHOSOMA*).

In a revision of the members of this group (Berl. Ent. Zeit. 136-140; 1867) Kiesenwetter states that the *D. Hartungii*, of the Canarian archipelago, will fall under his subgenus *Dolichophron*; and that the Madeiran and Mediterranean "*Dasytes illustris*" (usually cited, also, as a *Dolichosoma*), will enter the subgenus to which he has applied the name of *Psilothrix*. This latter species I may add, occurs also on the Great Salvage,—an example having lately been detected by myself in a bottle of Coleoptera which had been obtained by the Baron Paiva from that remote island.

Fam. ANOBIADÆ.

p. 225 (genus *ANOBIUM*).

(Sp. 641) *Anobium striatum*.

It would appear that this common, widely-diffused *Anobium* must be cited as the "*domesticum*, Fourcr.," that name having the priority over Olivier's "*striatum*." Hence its synonymy should be thus cited:—

Anobium domesticum.

Anobium domesticum, Fourcr., Ent. Par. i. 26 (1785).
Anobium striatum, Oliv., Ent. ii. 16·9 (1790); Woll., Ins. Mad. 278 (1854); Id., Cat. Mad. Col. 92 (1857); Id., Cat. Can. Col. 250 (1864); Id., Col. Atl. 227 (1865).

Hab.—Maderenses (*Mad., Des.*), et Canarienses (*Ten., Gom., Palma*); late sed parce diffusum.

After species 644, add:—

Anobium nitidulum, n. sp.

A. cylindricum, rufo-ferrugineum, nitidulum, grosse griseo-pubescent, et parce (sed in prothorace paulo densius) granulatum, aut forsan asperato-punctulatum. *A. molli* similimum, sed paululum minor, clarius rufescens, nitidior, minus dense et minus rugose granulatum, et pube sensim longiore ac robustiore vestitum.

Long. corp. lin. $1\frac{1}{2}$ —2.

Hab.—Maderenses (*Mad.*); a Dom. Anderson haud longe ab urbe Funchalensi, sc. ad Sanctum Antonium, inter pinos, olim captum.

Several examples of an *Anobium*, which were taken in Madeira by the late Mr. F. A. Anderson (namely at S. Antonio, near Funchal), have long been placed aside by me, unexamined, as in all probability small individuals of the European *A. molle*—a species which occurs, also, though sparingly, both in the Madeiran and Canarian archipelagos. A more critical inspection, however, shows them to be truly distinct; and I may add that Mr. Rye is equally of opinion that they cannot be regarded as any state, or variety, of the *molle*. They appear to differ from the latter in being on the average a little smaller, and of a clearer or more rufo-castaneous hue, in their granules (or asperated punctules, if so regarded) being more distant and minute, and in their surface being more shining, and clothed with a coarser pubescence. Mr. Rye has called my attention to an *Anobium* described by Mulsant (*Opusc. Ent.* 13, Cah. 117; 1863), under the name of *consimile*, which might possibly prove to be the one which we are now considering; but since the author says nothing about the manifest difference of sculpture (as compared with the *A. molle*), and leaves equally unnoticed its more shining and more coarsely pubescent surface, it is scarcely possible to treat his insect as conspecific with the Madeiran one.

Fam. TOMICIDÆ.

p. 236 (genus *Tomicus*).

(Sp. 665) *Tomicus nobilis*.

This fine Canarian wood-borer is said by Ferrari (*Berl. Ent. Zeitsch.* 254; 1868) to belong to the subgenus *Cyr-*

totomicus; and he is further of opinion that it may possibly be, in reality, but a large local form of the *C. duplicatus*, Sahlb. (= *rectangulus*, Eichh., in litt.).

p. 239 (genus *APHANARTHURUM*).

In my definition of this genus (*vide* Ins. Mad. 292; 1854) I stated, unreservedly, the funiculus to be 3-articulate; and it was not until seven years afterwards, when compiling a paper on the "*Euphorbia*-infesting Coleoptera of the Canary Islands," for the 'Trans. of the Ent. Soc. of London,' that a re-examination of several of the antennæ (carefully mounted in Canada Balsam) convinced me that in reality only *two* joints were distinctly appreciable,—although in one species (the Madeiran *A. euphorbiæ*, from which my original diagnosis was drawn out) I fancied that I could still trace a third, infinitesimal articulation between the second one and the club: and this led me to the conclusion that it would perhaps be safer to regard the funiculus of *Aphanarthrum* as only *bi*-articulate,—though, at the same time, adding the qualification "that in one species, at all events, there are indications, beneath a high microscopic power, of what may possibly be an additional joint at the base of the capitulum." And I then remarked that "when thus emended, the diagnosis will better accord with what is likely to be observed; whilst the fact of an extra joint being faintly indicated in one of the exponents will leave it an open question whether the funiculus may not in reality be triarticulate, even though but two joints are distinctly traceable in the various members of the group" [*vide* Trans. Ent. Soc. Lond., 3rd ser., i. 165; 1861]. Under these circumstances it is satisfactory to notice that Ferrari, in a paper published in the 'Berliner Ent. Zeitsch.' in 1868, came to much the same conclusion,—remarking (p. 254) that the *A. Jubæ*, *canariense*, and *euphorbiæ* appeared to him to have a 2-jointed funiculus, while in the *luridus* the funiculus seemed to be *indistinctly triarticulate*.

Taking the above considerations into account, I cannot altogether endorse the suspicion of Leconte (Trans. Am. Ent. Soc. ii. 152) that the *Hylastes pumilus* of Mannerheim, from Alaska, which forms the type of Eichhoff's genus *Dolurgus* (Berl. Ent. Zeitsch. 147; 1868), should

be referred to *Aphanarthrum*; for although Leconte thinks that Eichhoff was mistaken in regarding the funiculus of *Dolurgus* as 4-jointed, believing it rather to be triarticulate, the fact at least remains that at any rate *three* joints must be *thoroughly* apparent (as indeed he plainly affirms),—whereas in *Aphanarthrum* (as already shown) it seems more probable that the funiculus is composed of only two articulations.

p. 244 (genus *CRYPTURGUS*).

(Sp. 686) *Crypturgus concolor*.

Ferrari thinks it possible (*vide* Berl. Ent. Zeitsch. 254; 1868) that this may prove to be but a geographical form of the European *C. pusillus*, Gyll.

Fam. HYLESINIDÆ.

p. 250 (genus *HYLASTES*).

(Sp. 703) *Hylastes trifolii*.

This European *Hylastes*, which is locally rather abundant in the intermediate elevations of Madeira (where it would seem to be attached principally to the *Genista scoparia*, or common Broom), has been shown to be conspecific with the *obscurus* of Marsham. Its corrected synonymy, therefore, will be as follows:—

Hylastes obscurus.

Ips obscurus, Mshm., Ent. Brit. 57 (1802). *Hylesinus trifolii*, Müll., Journ. du Mont Tonnere (1803). *Hylastes trifolii*, Woll., Ins. Mad. 304 (1854); Id., Cat. Mad. Col. 99 (1857); Id., Col. Atl. 251 (1865).

Hab.—Maderenses (*Mad.*); præcipue inter ramulos emortuos *Genistæ scopariæ*, L., hinc inde in intermediis.

Fam. CURCULIONIDÆ.

p. 252 (genus *RHYNCOLUS*).

(Sp. 706) *Rhyncolus crassirostris*.

In the Appendix to my 'Coleoptera Hesperidum' I called attention to the fact that the title of *crassirostris*

for this insect must be changed, that name having been pre-occupied by Perris (in the 'Ann. de la Soc. Linn. de Lyon,' sér. 2, iv. 147) for a *Rhyncolus* from the south of France; and, having therefore at the time proposed that of *pinipotens* instead, the synonymy of the species will stand as follows:—

Rhyncolus pinipotens.

Rhyncolus crassirostris, Woll. [*nec* Perris], Trans. Ent. Soc. Lond. v. 367, pl. 18, f. 3 (1861); Id., Cat. Can. Col. 270 (1864); Id., Col. Atl. 252 (1865). *Rhyncolus pinipotens*, Id., Col. Hesp. (Append.) 275 (1867).

Hab.—Canarienses (*Can.*); lignum antiquum *Pini canariensis* in montibus parce destruens.

p. 259 (genus CAULOTRUPIS).

After species 726, add:—

Caulotrupis pyricollis, n. sp.

C. ellipticus, nigro-æneus (rarius æneus), subnitidus; prothorace pyriformi-conico, fere impunctato (sc. punctulis levissimis parce irrorato); elytris obsolete et levissime subpunctulato-striatis, striis postice paulo distinctioribus, antice evanescentibus; antennis breviusculis, ferrugineis, pedibus rufo-piceis.

Long. corp. lin. $1\frac{1}{2}$ -2.

Hab.—Maderenses (*Mad.*); sub cortice, truncis humi jacentibus, lignoque recenter secto, in castanetis longe supra urbem Funchalensem (præsertim inter 1600' et 2000' s. m.), vulgaris.

Obs.—Species *C. conicollis* affinis, sed nisi fallor distincta; differt corpore plus minus evidenter angustiore aut magis oblongo-elliptico (*nec* obpyriformi), necnon minus ænescenti minusque nitido, prothorace sublongiore, subampliore, minus argute conico, elytris postice minus striato-inæqualibus.

I cannot feel altogether certain that this *Caulotrupis* is more than an extreme variety, or race, of the *C. conicollis*,—for the *Caulotrupides* appear to be eminently liable to slight alterations, both in outline and sculpture, according to the exact locality in which they severally occur.

Nevertheless since the present one, which abounds throughout the region of "the Mount" (from about 1700 to 2000 feet above Funchal), has very decided characters to separate it from at any rate the typical *C. conicollis*, I think it better, in spite of a few rather doubtful examples which have elsewhere occurred (and which would seem in some respects to be intermediate between the two), to treat it as distinct. In that particular district it often swarms beneath chippings of wood, and under logs and planks, and never appears to be mixed-up with the true *conicollis*—which occurs more especially towards the eastern parts of the island, being tolerably common at S. Antonio da Serra and along the high sea-cliffs towards the Brazen Head; yet this very fact, I am aware, might tend to imply that it is but a modification, or race, peculiar to the mountain slopes above Funchal. Be this however as it may (for it seems next to impossible to decide for certain), the *C. pyricollis* may be said to differ from the *conicollis* in being a little narrower and more oblong (the elytra being less expanded in the middle, and therefore the whole outline less pear-shaped or broadly-elliptic), in its prothorax being a trifle wider and more developed (being perhaps somewhat less strictly conical), in its elytra being more *even* behind (where there is less appearance of the *inequalities* occasioned by the anteriorly-evanescent sulcate striæ), and in its entire surface being, on the average, a little darker, less shining, and less brassy. Still, considering the variations which the members of this genus are apt to undergo in the different districts in which they are found, I would desire to record at any rate my *doubt* as to whether the *C. pyriformis* is more in reality than an extreme modification of the *conicollis*.

p. 265 (genus NANOPHYES).

(Sp. 738) *Nanophyes longulus*.

It would appear, according to Brisout de Barneville (*L'Abeille*, vi.), that this Canarian *Nanophyes* is conspecific with the *N. Chevrieri*, Boh., from southern and south-western Europe, and perhaps also with the (previously-described) *N. nitidulus* of Gyllenhal. Possessing no type of these species, I cannot test the conclusion for myself; but assuming the identification to be correct, the emended synonymy will stand thus:—

Nanophyes Chevrieri.

Nanophyes nitidulus? (Hoffm.), Gyll., in Schön. iv, 785 (1838). *Nanophyes Chevrieri*, Boh., in Schön. viii. (pars 2) 193 (1845). *Nanophyes longulus*, Woll., Cat. Can. Col. 299 (1864); Id., Col. Atl. 265 (1865).

Hab.—Canarienses (*Can.*, *Ten.*); super folia plantarum in herbidis intermediis humidiusculis, rarior.

p. 270 (genus *ACALLES*).

While residing at S. Antonio da Serra, on the mountains in the east of Madeira, during March, April, and May of 1870, I had an opportunity of observing the habits of at any rate four of the numerous species of *Acalles* peculiar to the island,—three of which may be said to be universal throughout that particular district. The species to which I refer are the *terminalis*, *dispar*, *Wollastoni*, and *globulipennis*,—all of which occur amongst the lichen which clothes the trunks and boughs of the trees, which, from the general humidity of that cloudy region, attains an unusual amount of development. The apple trees, on account of the marvellously thick Cryptogamic envelope of their branches and dead twigs, were more particularly rich in the lichen-infesting forms; and in such situations (accompanied by the equally common *Tarphius Loweii*) the *Acalles Wollastoni* might be said almost to abound. The *A. globulipennis* and *terminalis* were less plentiful,—yet widely distributed, and by no means scarce; and at a still higher altitude (perhaps from about 3000 to 4000 feet above the sea) the *A. dispar*, when searched for in the proper situations, literally swarmed. This last was usually to be met with congregating in the larger kinds of lichen which are accustomed to hang in dense masses from the gnarled trunks of the old laurels; and towards the summit of the Pico Gordo the few trees which are still remaining, amongst the thickets of the *Vaccinium maderense*, were pretty sure, in every instance, when well shaken into a net, to yield a liberal supply.

p. 284 (genus *TORNEUMA*).

We are informed by Mr. G. R. Crotch (*Pet. Nouv. Ent. No. 12*) that Fairmaire's genus *Crypharis*, founded (*Ann.*

de la Soc. Ent. de France, 498) in 1868 for the reception of a small blind Curculionid from Algeria and Sicily, is identical with my Madeiran and Canarian *Torneuma*,—his type however (*C. planidorsis*) being specifically distinct from both of the Atlantic ones. I need scarcely add, if this be the case, that the title of *Torneuma*, having been proposed in 1860, has of course the priority.

p. 296 (genus PROCAS).

(Sp. 822) *Procas picipes*.

During our late sojourn in Madeira a single example of this rare European Curculionid was captured by my wife at "the Mount," about 1700 feet above Funchal,—making the third which has hitherto been recorded from the Madeiran Group. Of the other two, the first was found by the late Mr. F. A. Anderson, at a high elevation, on the edges of the Great Curral, and the second by Mr. Bewicke—in his garden at the Quinta da Palmeira.

p. 298 (genus LIXUS).

(Sp. 829) *Lixus rufitarsis*.

According to Desbrochers des Loges (*Pet. Nouv. Ent. No. 10*), the European and Madeiran *L. rufitarsis* of Schönherr's work is in all probability a phasis of the widely spread Fabrician *L. filiformis*. Still, as this requires corroboration, I shall not until further evidence has been adduced disturb the present synonymy.

p. 304 (genus HYPERA).

According to a late revision of the Hypérides by M. G. Capiomont (*Ann. de la Soc. Ent. de France*, vii. et viii.; 1867-68), the species of this group which I cited in the 'Coleoptera Atlantidum' enter more properly into the genus *Phytonomus*, as there separated (and distinguished) from *Hypera* proper; so that, for the future, they must be corrected accordingly.

(Sp. 839) *Hypera lunata*.

This *Phytonomus* is said by M. Capiomont to be not specifically separable from the widely-spread *P. fasciculatus*;

but I cannot help thinking (as indeed I have long ago expressed) that the form which obtains throughout the Mediterranean region and the Atlantic islands (extending even to Egypt and Abyssinia), and which is a little larger and differently marked, cannot be absolutely identified with the one which occurs in sub-northern Europe; and if therefore the latter be the true *fasciculatus* of Herbst, it follows that the other (which is undoubtedly Olivier's *dauci*, and which I subsequently described under the name *lunatus*) must be accepted as distinct.* Under these circumstances, therefore, I will not at present amalgamate them; though the *title* under which the species has hitherto been acknowledged by me must be changed,—that of “*dauci*” (which until lately I was not aware had been actually *published* by Olivier) having of course the priority.

As mentioned in my ‘*Coleoptera Atlantidum*,’ the *P. lunatus* (*i. e.* *dauci*) is universal throughout the Madeiran and Canarian archipelagos — Gomera being the only island in the two Groups on which it does not happen, as yet, to have been observed; nevertheless Capiomont, in accordance with that strange want of precision as regards *habitat* which is so characteristic of the French entomologists, gives merely (for its Atlantic dissemination) “*Pîle de Madère*,”—thus ignoring altogether its Canarian range; and that too whilst citing the *P. irroratus*, which is *only* Canarian, as found equally in “*Madeira!*” Assuming it therefore to be distinct from the typical *fasciculatus* of Herbst, the emended synonymy of this *Phytonomus* will be as follows:—

Phytonomus dauci.

Rhynchænus dauci, Oliv., Ent. v. 127, t. 35, f. 542 (1793). *Phytonomus dauci*, Brullé, in W. et B. (Col.) 72 (1838). *Hypera lunata*, Woll., Ins. Mad. 398 (1854); Id., Cat. Mad. Col. 118 (1857); Id., Cat. Can. Col. 326 (1864); Id., Col. Atl. 304 (1865). *Phytonomus fasciculatus* (*pars*), Cap., *loc. cit.* 129 (1868).

* Even Capiomont himself remarks that “*En général, les fasciculatus du nord de l’Europe sont plus foncés en couleur et plus petits que ceux du midi, et surtout que ceux du nord de l’Afrique et de l’Asie occidentale*” (*loc. cit.* 131).

Hab.—Maderenses (*Mad.*, *Pto. Sto.*, *Des.*), et Canariensis (in *Gom.* sola haud observatus); sub lapidibus in aridis, præsertim calcariis inferioribus, late diffusus.

(Sp. 840) *Hypera irrorata*.

While recording it properly as Canarian, M. Capiomont (as just stated) misquotes this insect (*loc. cit.* 121) as likewise *Madeiran*, and even refers it (in general terms) to the 'Insecta Maderensia;' though, of course, had he taken the trouble to look into that volume he would have seen at once that it was *not* contained there. This however is but one instance out of many (alluded to, *passim*, in my Canarian Catalogue and elsewhere), in which the excessive inaccuracy of the French entomologists, as regards *habitats*, is well-nigh incredible. The fact is, that the *P. irroratus* has been observed hitherto only in Lanzarote and Fuerteventura—the two eastern islands of the Canarian archipelago.

After allowing it to be truly distinct, M. Capiomont then states that he believes, on re-consideration, that it is a variety of the *P. isabellinus*—a species which is found in Arabia, Egypt, and Algeria; but I suspect that in this conjecture he is wrong,—for I compared the Lanzarotan and Fuerteventuran insect very diligently with types of the *isabellinus*, and pointed out in my Canarian Catalogue (p. 327) the exact characters, one or two of them being *structural* ones, in which it seemed to me to differ from that species. Therefore, until further evidence has been adduced, I certainly shall *not* refer the *H. irroratus* to the *isabellinus*.

(Sp. 841) *Hypera murina*.

In my 'Ins. Mad.' and Madeiran Catalogue (published, respectively, in 1854 and 1857) I treated the common *P. murinus* and *variabilis*, however nearly related *inter se*, as specifically distinct; but in 1865, when compiling the 'Coleoptera Atlantidum,' I had so thoroughly satisfied myself (as I thought) that they merge imperceptibly into each other that I made up my mind to regard them as but phases of a single plastic form, and cited them accordingly. Yet M. Capiomont, in his late revision of the Hypérides, has expressed his conviction that, after

all, they are *not* conspecific; so that, on the strength of so high an authority, and so careful a monograph, I have practically no choice left but to accept the conclusion at which he has arrived, and to revert to my own opinion as originally expressed. Without discussing their distinctive features afresh, I may add that, since both forms (whether truly specific or not) do undoubtedly occur both in the Madeiran and Canarian archipelagos, their corrected synonymy may be thus tabulated, and the "*H. murina*" as defined in the 'Col. Atlant.' consequently cancelled.

Phytonomus murinus.

Curculio murinus, Fab., Ent. Syst. i., ii. 463 (1792). *Hypera murina*, Woll., Ins. Mad. 399 (1854); Id., Cat. Mad. Col. 118 (1857). *Hypera variabilis* (pars), Id., Cat. Can. Col. 328 (1864). *Hypera murina* (pars), Id., Col. Atl. 305 (1865). *Phytonomus murinus*, Cap., loc. cit. 199 (1868).

Hab.—Maderenses (in *Ilheo Chão* sola haud detectus), et Canarienses (ins. *omnes*); præcipue in cultis, hinc inde vulgaris.

Phytonomus variabilis.

Curculio variabilis, Hbst., Käf. vi. 263 (1795). *Hypera variabilis*, Woll., Ins. Mad. 400 (1854); Id., Cat. Mad. Col. 119 (1857); (pars), Id., Cat. Can. Col. 328 (1864). *Hypera murina* (pars), Id., Col. Atl. 305 (1865). *Phytonomus variabilis*, Cap., loc. cit. 205 (1868).

Hab.—Maderenses, et Canarienses; una cum specie præcedenti, nisi fallor, degens.

p. 309 (genus ATLANTIS).

(Sp. 858) *Atlantis noctivagans.*

My attention having been drawn by T. S. Leacock, Esq., during our late sojourn at Madeira, to the fact that an *Atlantis* has long been known in the vineyards, in most parts of the island, under the name of the "besta da vinha," from causing great injury to the vines—the young shoots of which it would often entirely destroy, I

took a considerable series of it from his vineyard at S. João, near Funchal, hoping that the examples thus obtained might enable me to clear up one or two doubtful points concerning some of the closely-allied forms which I had originally published as specifically distinct, but *two* of which I afterwards suppressed,—feeling it more probable that they were in reality but local races of the (evidently variable) *A. noctivagans*. Accordingly, having likewise captured a long array of individuals, barely differing at first sight from the others, at S. Antonio da Serra, I have been examining the two sets with unusual care,—being satisfied that if there is more than a single species concealed amongst the three forms which I admitted into my emended definition of the *A. noctivagans* in 1857, *two* at any rate would be likely to present themselves amongst my series from regions so dissimilar, and remote, as the vineyards around Funchal and the elevated mountain-district of S. Antonio da Serra. The result is that, despite the *primâ facie* resemblance of the whole, I cannot but believe, as I did originally in 1854, that, after all, there must be *two species indicated* (one found in the higher altitudes, and the other in the lower), and that consequently I was mistaken when, in my subsequently-published (and re-adjusted) Madeiran Catalogue, I referred them both (contrary to my original conviction) to a single plastic type. Yet at the same time the extreme difficulty of ascertaining the true specific limits of these variable, scale-covered *Cyclomides* must be my excuse if even now I am in error, when endeavouring to re-instate at all events *one* of the two forms which, although treated in the ‘Insecta Madeirensia’ as truly specific, I afterwards suppressed.

Since the true *A. noctivagans* (as enunciated by me in 1854) clearly attains its maximum in the laurel regions of a high altitude (being more particularly abundant from about 2000 to 5000 feet above the sea), I had always thought it extremely improbable that it could be absolutely conspecific with the particular form (so much resembling it) whose manifestly normal range is the vineyards and cultivated grounds of the lower districts; yet the differences were so slight between the two, and *both* forms were so inconstant, that it was difficult to arrive at a satisfactory solution of the problem. But, taking their habits again into consideration, I am inclined to believe now that the

one differential character which I have been able to detect (slight though it be) must suffice for their specific separation. Fortunately that character is a structural one, and I do not perceive that it is subject to any great amount of instability. It consists in the exact shape of the "heel," or projecting process which constitutes the inner apical angle of the two hinder tibiæ in the male sex,—a kind of compressed spur, which in the *A. noctivagans* terminates in an acute prominent angle, but in the allied form from the lower regions in a comparatively rounded or obtuse truncate plate. This latter species includes the *A. lauripotens* and *australis* of my 'Insecta Maderensia;' and it is usually, likewise, a trifle larger, on the average, and more densely and *softly* pubescent, than the genuine *A. noctivagans* of the higher altitudes, as well as perhaps a little more ferruginous or less brightly tessellated; and in order therefore to place on record the conclusion at which I have now (again) arrived, that the *lauripotens* (so destructive, and abundant, in the vineyards around Funchal) should be treated as distinct from its ally, I will cite it afresh, and correct its synonymy, as follows: * —

Atlantis lauripotens.

Atlantis lauripotens, Woll., Ins. Mad. 369 (1854). *Atlantis australis*, Id., Ibid. 370 (1854). *Atlantis noctivagans* (pars), Id., Cat. Mad. Col. 114 (1857); (pars), Id., Col. Atl. 311 (1865).

Hab.—Maderenses (*Mad.*); in cultis inferioribus abundans: præsertim in vinetis ramulos vinearum destruit.

* Even though abundant, more particularly, in the vineyards of a low elevation, I do not think it necessary to adopt the name of *australis* for this species, in preference to that of *lauripotens*,—(1) because the original diagnosis of the latter (in the 'Ins. Mad.') agrees more accurately with the particular form which I wish now to define, and (2) because I have little doubt (since the vine is not truly indigenous to Madeira) that the *Atlantis* in question is in reality a laurel insect (perhaps common in the lower districts before the primeval forests were cleared away) which has simply adapted its mode of life to the altered circumstances of the island. Whether, however, this "adaptation" may in any way account for the slight structural peculiarity which it now presents, it would be idle even to speculate.

(Sp. 869) *Atlantis ænescens*.

This Madeiran *Atlantis*, which I had regarded hitherto as somewhat scarce, appears to be the common species throughout the mountain region of S. Antonio da Serra,—where, during March, April, and May of 1870 we met with it in profusion, by sifting fallen leaves and rubbish, particularly in sylvan spots. It ascends however to a very high altitude, being equally common towards the summit of the Pico Gordo and in the direction of the Poizo; and this indeed accords with the habitat of my original types, which were taken “on the lofty upland ridges between the Fonte das Moças and the Pico do Areeiro,—from about 4000 to 5000 feet above the sea. It is very nearly allied to the *A. ventrosa*—which is found likewise at a high elevation, though more frequently on the exposed mountain-slopes; but it may be known from that species by being, on the average, rather smaller, shorter, and more ovate (or ventricose), as well as just appreciably more shining and brassy, with its limbs perceptibly paler or more rufescent. Its antennæ moreover are, if anything, a trifle shorter,—the funiculus joints a little more abbreviated.

p. 327 (genus *SCOLIOCERUS*).

It would appear that this genus is, after all, identical with *Cathormiocerus* of Erichson, though, in the absence of a type of the latter from which to form an opinion, I pointed out a few characters (in my diagnosis of it in 1854) which I thought might perhaps serve to separate it therefrom. Seidlitz, however, in his late revision of the *Otiorhynchides* (*vide* Berl. Ent. Zeitsch., 1868), seems to have no doubt on the matter; and Mr. Rye (Ent. Month. Mag. 151; 1870) goes so far as to question whether “future entomologists will consider *Cathormiocerus* as in reality distinct from *Trachyphlæus*.” Be this however as it may (and the members of the two groups are certainly, as regards their structure, barely distinguishable from each other), *Scoliocerus* it is clear must, at any rate, as a genus, be suppressed; and I would therefore desire for the future to cite the two Madeiran Curculionids which I have hitherto referred to it, as *Cathormioceri*. I may also add that the *C. curvipes* does not appear to be peculiar (like the *C. maderæ*) to that island, it having been observed during the last few years both in France and Algeria.

p. 328 (genus *CÆNOPSIS*).

(Sp. 914) *Cænopsis Waltoni*.

Until our late visit to Madeira the admission of this European Curculionid into the island list was dependant upon a single example which was taken, a few years ago, by the late Mr. Bewicke, at "the Mount"—about 1700 feet above Funchal. But during our sojourn at the Mount, in January, February, and March of 1870, we met with it rather abundantly, in the grounds of the Quinta do Prazer,—not merely beneath logs and chippings of wood, but more particularly by sifting fallen leaves. I did not observe it, however, in any other district; and during an after residence at S. Antonio da Serra, although the *Trachypylæus scaber* (which so much resembles it) was tolerably common, there was no appearance of *Cænopsis*.

Fam. BRUCHIDÆ.

p. 340 (genus *Bruchus*).

(Sp. 943) *Bruchus subellipticus*.

According to Kraatz (Berl. Ent. Zeitsch. 331; 1869), this *Bruchus* is the *irresectus* of Schönherr's 'Gen. et Spec. Curc.,' an insect recorded as Persian, and distinct from the *B. mimosæ*—with which, in that work, in habit and affinity, it is compared.* I had always felt it probable indeed that the *B. subellipticus* would sooner or later be identified with some known form, for it had every appearance in Madeira of having been naturalized through the medium of commerce; nevertheless being unable to identify it, I was compelled to treat it as new. It has manifestly acquired a wide geographical range; and Mr. Crotch lately re-described it, under the name of *B. Breweri*, from the Azores. Its emended synonymy will stand thus:—

Bruchus irresectus.

Bruchus irresectus, Fhs., in Schön. Gen. et Spec. Curc. v. 18 (1839). *Bruchus subellipticus*, Woll., Ins. Mad.

* Kraatz likewise considers the "*obtectus*, Schön." to be identical with the *B. irresectus*; but as the only *Bruchus* in Schönherr's work which bears that title is a North-American one described by Say, and is placed at the end of the genus amongst the forms which Schönherr had not inspected, I feel doubtful whether the Louisiana species can be referred safely to the *irresectus* and *subellipticus*.

420 (1854) ; Id., Cat. Mad. Col. 123 (1857) ; Id., Col. Atl. 341 (1865). *Bruchus Breweri*, Crotch, Proc. Zool. Soc. Lond. 379 (1867).

Hab.—Maderenses (*Mad.*) ; hinc inde in domibus et granariis.

Fam. CRYPTOCEPHALIDÆ.

p. 355 (genus CRYPTOCEPHALUS).

(Sp. 976) *Cryptocephalus crenatus*.

This Madeiran *Cryptocephalus* appears to be much attached to the various kinds of *Sedum* and *Sempervivum* ; and during our late sojourn at “the Mount” (about 1700 feet above Funchal) we met with it in profusion on the fleshy leaves of a shrubby species of one of those plants,—in company with the exceedingly rare *Ceuthorhynchus lineatotessellatus*, which is equally partial to the *Seda* and *Semperviva*.

Fam. CHRYSOMELIDÆ.

p. 361 (genus MNIOPHILOSOMA).

When defining this genus (*Ins. Mad.* 433) in 1854, I stated that the four anterior feet of the male sex have their basal joint considerably enlarged. A more careful inquiry has just convinced me that the articulation is almost as greatly developed in the hinder pair likewise ; so that I would desire to make a correction to that effect in my original diagnosis. Moreover, although I noticed the fact that the *M. læve* has sometimes a perceptibly greenish tinge (like the individual figured in the ‘*Ins. Mad.*’) whilst at others it is entirely black, I omitted to mention that the examples in the latter predicament (which I may here cite as the “var. *β. obscurior*”) have their limbs not only less *clearly* rufo-testaceous, but also their antennal club and tarsi more or less conspicuously darkened.

Fam. HALTICIDÆ.

p. 364 (genus LONGITARSUS).

(Sp. 1007) *Longitarsus saltator*.

I find that this large *Longitarsus* is attached to a *Scrophularia* which is common throughout the inter-

mediate elevations of Madeira. During our residence at "the Mount," in January, February, and March of 1870, we met with it sparingly on that particular species of plant; and I subsequently captured it, under similar circumstances, though still more rarely, at S. Antonio da Serra.

Fam. COCCINELLIDÆ.

p. 377 (genus EPILACHNA).

Mr. G. R. Crotch, who is engaged just now in studying the *Coccinellidæ*, informs me that he believes my Canarian *Epilachna bella* and 4-*plagiata* belong to the genus *Platynaspis*, and that the 10-*plagiata* of the Madeiran and Canarian archipelagos is most likely referable to the genus *Pharus*,—being manifestly allied to the *P. setulosus* from Algeria.

p. 378 (genus COCCINELLA).

I may just mention that two examples of the common European *Coccinella mutabilis* (so general in the Madeiran Group), and one of the well-nigh cosmopolitan *C. 7-punctata*, have lately been detected by myself amongst some specimens (in spirits-of-wine) which had been obtained by the Baron Paiva from the Great Salvage; so that the very limited Coleopterous fauna of that small and remote island must be credited accordingly.

p. 382 (genus SCYMNUS).

After species 1054, add:—

Scymnus epistemoides.

S. ellipticus, niger aut subpiceo-niger, nitidulus, leviter punctulatus, parce cinereo-pubescens; prothorace breviter subconico, concolori; elytris subventricosus; labro, antennis, palpis pedibusque infusate testaceis.

Long. corp. lin. $\frac{3}{4}$.

Scymnus epistemoides, Woll., Col. Hesp., Append., 276 (1867).

Hab.—Maderenses (*Pto. Sto.*) ; exemplar unicum olim collegit Dom. Bewicke.

Obs.—Species nigra, aptera, *S. limnichoides* propinquans ; sed subminor (?), magis elliptica (*i. e.*, antice et postice subacutior), vix minus nitida, et conspicue levius minutiusque punctata, prothorace magis conico (antice sensim angustiore), etiam ad latera concolori, lineâ basali magis per basin ipsissimam sitâ, elytris paulo magis ventricosus (pone basin utrinque magis rotundatis).

In the Appendix to my 'Coleoptera Hesperidum' I stated that "the single example from which the above diagnosis has been compiled was taken in Porto Santo, several years ago, by the late Mr. Bewicke, and was inadvertently identified by myself with the *S. limnichoides*—to which in its size, general affinity, apterous body, and dark colour it closely approaches. The specimen having however, since the death of Mr. Bewicke, fallen into my possession, I am enabled to examine it with greater care, and I now perceive that it is unquestionably distinct from the *limnichoides*—though belonging clearly to the same type. Whether it be a trifle smaller than that species I can, from the evidence afforded by a single individual, scarcely say ; but it is considerably more elliptical in outline, or sharper before and behind (the prothorax being more conical, or attenuated in front, and the elytra more rounded outwards behind the shoulders) ; it is also much more lightly, and finely, punctulated ; and its prothorax, which has the basal line placed even still nearer to the extreme edge, does *not* appear (at any rate in the example before me) to be diluted in hue towards the sides. Although there is no label appended to it, I have said that it was captured in Porto Santo because I distinctly recollect that it was communicated to me by Mr. Bewicke as found by himself in that island."

Fam. OPATRIDÆ.

p. 414 (genus *HADRUS*).

Fairmaire (Ann. de la Soc. Ent. de France, 546 ; 1856) says that the *Opatrum carbonarium* of Schönherr is a member of this genus ; but, as rightly observed by Lacordaire (Gen. v. 274, note 1), Schönherr has no *Opa-*

trum under that title in his published works. Accordingly the Baron Harold, in his recent Catalogue (p. 1939), makes the *Platynotus carbonarius* of Quensel (defined, in 1806, in Schönherr's 'Synonymia Insectorum,' i. 142, note *x*) identical with the common Madeiran *Hadrus cinerascens*; and if his conjecture be correct, of course the former name will have the priority over Dejean's one of *cinerascens*; but since the *habitat* given for the *P. carbonarius* is "in insula Java, ad Augeri," and it is likewise difficult, even assuming that a mistake had arisen as regards the country from which it was obtained, to decide as to which of the four nearly-allied *Hadri* the title of *carbonarius* should belong, I prefer—until *both* of these points have been satisfactorily cleared up—to quote it still as the *H. cinerascens*.

Fam. ULOMIDÆ.

p. 418 (genus ADELINA).

According to the recent Catalogue of Gemminger and Harold (p. 1987), this genus is identical with *Sitophagus* of Mulsant (Col. Fr., Latig., 264; 1854); but I have not had any opportunity, myself, of comparing a type of the latter with my *Adelina farinaria*.

Fam. HELOPIDÆ.

p. 426 (genus HELOPS).

(Sp. 1175) *Helops arboricola*.

Of this large and apparently scarce Madeiran *Helops* I took a single example, beneath the loosened bark of an old Spanish-chestnut tree (during our sojourn at "the Mount"), about 1800 feet above Funchal. I think this locality worth placing upon record, because the only spots in which the species had hitherto been observed are the Vasco Gil ravine and the Rib. de Santa Luzia,—in both of which it was captured, under precisely similar circumstances as by myself at the Mount, by the late Mr. Bewicke.

(Sp. 1177) *Helops asper*.

Although I still believe that what I regarded in the 'Ins. Mad.' as the "state β " of this insect is truly conspecific with the "state α " (for the two forms seem to merge gradually into each other), nevertheless as there is such a decided *primâ facie* difference between the two

that some naturalists might perhaps be induced to treat them as distinct, I will propose for the former (which occurs in the higher elevations, and is the more lightly sculptured of the two, with the hinder edge of its prothorax more arched-out, or sinuate) the varietal name of *obliteratus*, retaining (as formerly) the "state *a*" for the type.

(Sp. 1179) *Helops congener*.

It appears that the title of *congener* for this Canarian insect cannot be retained, a *Helops congener* having been described by Reiche (*vide* Ann. de la Soc. Ent. de France, 372) in 1861. Hence, the name of *conformis* having been proposed for it, in 1870, by Gemminger, the synonymy of the species will stand thus:—

Helops conformis.

Helops congener, Woll. [*nec* Reiche, 1861], Cat. Can. Col. 504 (1864); Id., Col. Atl. 429 (1865). *Helops conformis*, Gemm., Col. Heft. vi. (1870).

Hab.—Canariensis (*Can.*, *Ten.*, *Palma*, *Hierro*); hinc inde, præcipue in intermediis, congregans.

(Sp. 1187) *Helops subdepressus*.

Until our late visit to Madeira I had not myself ever captured this very distinct *Helops*,—three examples, which were found by Mr. Mason, and three more by Mr. Bewicke, being all that had come beneath my notice; but during our sojourn at S. Antonio da Serra, in March, April, and May of 1870, we met with it not only amongst lichen on the trunks of various trees, but more particularly under the loose outer fibre of the gigantic Heaths (*Erica arborea*, L.) for which the little wood known in that upland region as the "Circa" is so justly celebrated.

Fam. SCYDMÆNIDÆ.

p. 448 (genus SCYDMÆNUS).

(Sp. 1236) *Scydmaenus castaneus*.

The late Dr. Schaum having apparently (*vide* Mon. 21) published a *Scydmaenus* under the above title in 1841,

the name of *castanicolor* has been proposed for the present Canarian species by the Baron Harold; and the synonymy of it will consequently stand thus:—

Scydmaenus castanicolor.

Scydmaenus castaneus, Woll. [*nec* Schm. 1841], Col. Atl. 449 (1865). *Scydmaenus castanicolor*, Har., Col. Heft. iii. 164 (1868).

Hab.—Canarienses (*Gom.*, *Hierro*); sub marcidis foliisque dejectis a DD. Crotch repertus.

p. 449. After the genus SCYDMÆNUS, add:—

Genus CEPHENNIUM.

Müller, Mon. d. Ameisenk. 12 (1822).

Cephenhium mycetæoides, n. sp.

C. elongatum, obovato-ellipticum, nitidulum, omnino (palpis tarsisque testaceis exceptis) pallide rufo-ferrugineum et grosse fulvo-cinereo pubescens, parum dense sed minute (in elytris distinctior) punctulatum; prothorace magno, convexo, postice angustiore, ad latera oblique recto et anguste marginato: coleopteris ellipticis basi truncatis, utrinque ad basin ipsam mox intra humeros fovea magna latâ sed vix profundâ impressis; antennis pedibusque elongatis, robustis.

Long. corp. lin. $\frac{3}{4}$.

Hab.—Maderenses (*Mad.*); in montibus excelsis supra S. Ant. da Serra, inter folia *Vaccinii* dejecta, exemplar unicum inveni.

Obs.—Species valde distincta, *C. thoracico*, Europæo, multo major, elongatior, minus nitida, densius (tamen minute) punctulata, et omnino pallide rufo-ferruginea, prothorace elytrisque longioribus, illius angulis posticis rectoribus, horumque foveâ basali multo latiore ac magis humerali sed minus profunde et minus argute determinatâ, antennis pedibusque longioribus, robustioribus.

The single example from which the above diagnosis has been compiled is perhaps the most interesting of the various additions which we made to the fauna of Madeira during our late campaign in that island; and it having

been met with also at a great elevation on the mountains (namely by sifting fallen leaves near the summit of the Pico Gordo, far above the inhabited districts), I have little doubt that the species is a truly indigenous one, and in all probability peculiar to those wild upland regions. Judging from the type before me, it is considerably larger, and relatively more elongate, than the European *C. thoracicum*; and it is also less shining, much more densely (although minutely) punctulated, and its colour (instead of being dark) is altogether pale reddish-ferruginous; its prothorax and elytra are longer in proportion, and the former has its hinder angles more evidently right angles, whilst the latter have their basal fovea, although not so deep and well defined, both larger and wider, and placed nearer to either shoulder. Its limbs, too, are longer and more robust. Its colour and *primâ facie* aspect are faintly suggestive of a narrow *Mycetæa*,—a circumstance which I have taken advantage of in selecting a specific name.

Cephennium australe.

C. ellipticum, nitidulum, parce sed grosse fulvo-cinereo pubescens, remote sed parum profunde punctatum; capite prothoraceque pallide rufo-ferrugineis, illo convexo, postice ad latera subrecto et anguste marginato; coleopteris piceis vel ferrugineo-piceis, ad basin ipsam fovea media rotundata utrinque impressis; antennis pedibusque testaceis.

Long. corp. lin. $\frac{1}{2}$ – $\frac{2}{3}$.

Cephennium australe, Woll., Col. Hesp., Append. 277 (1867).

Hab.—Maderenses (*Mad.*); a meipso in castanetis editioribus longe supra Funchal (sc. 1800' s. m.) mense Decembri, A.D. 1865, parce deprehensum.

Obs.—Species *C. thoracico*, Europæo, minor, angustior, minus polita, paulo densius punctata, necnon omnino pallidior—sc. capite prothoraceque pallide subrufescentibus, elytrisque plus minus picescentibus.

I captured three examples of this interesting little *Cephennium* on the 19th of December, 1865, while touching at Madeira, with Mr. Gray, on our outward route to the Cape Verdes. They were taken by sifting fallen leaves

and refuse, in the chestnut-woods at "the Mount"—about 1800 feet above Funchal; but their extremely minute size rendered them somewhat difficult to detect. They are smaller and narrower than the European *C. thoracicum*; also less highly polished, rather less remotely punctured, and considerably paler—their head and prothorax being pale rufo-ferruginous, and their elytra more or less piceous; whilst the limbs, which are slender, are brownish-testaceous.

Fam. PSELAPHIDÆ.

p. 452 (genus PSELAPHUS).

After species 1244, add:—

Pselaphus minyops, n. sp.

P. gracilis, rufo-castaneus, nitidissimus, parcissime fulvo-pubescent, impunctatus; capite prothoraceque angustissimis, ovalibus, oculis minutis; elytris triangularibus, brevibus, singulis lineis duabus integris (sc. suturali et discali) instructis; antennis, palpis pedibusque longissimis; palporum articulo ultimo longissimo, subflexuoso, gradatim facile clavato; antennarum articulo 1mo et ultimo robustis, illo elongato, hoc ovato, apicem versus oblique truncato.

Long. corp. lin. circa 1.

Hab.—Maderenses (*Mad.*); ad S. Ant. da Serra, in lauretis editioribus, a meipso parcissime lectus.

Three examples of this very distinct and interesting *Pselaphus* were taken by myself, during May of 1870, by sifting fallen leaves and rubbish at S. Antonio da Serra, in the intermediate districts of Madeira. It is a little larger than the European *P. Heisii*, with the limbs considerably longer, with the head and prothorax (each of them) narrower and more elongate, and with the eyes very much smaller. Its elytra also are still more attenuated towards their base, the apical joint of its palpi is more flexuose and much less suddenly clavated, and the basal and terminal ones of its antennæ (the latter of which is more obliquely-truncate) are more developed.

In its extremely narrowed head and prothorax, as well as in the peculiar shape of the last joint of its maxillary palpi, the *P. minyops* is in reality more on the type of the Canarian *P. palpiger*; nevertheless it may imme-

diately be known from that insect by being not only rather larger and with more elongated limbs, but likewise by its eyes (although minute) being distinctly developed, by its elytra being less abbreviated, less plicate at the base, and with their discal line entire, by the second joint of its feet being rather less clavate, and by the first one of its antennæ being much longer.

Fam. STAPHYLINIDÆ.

p. 452 (genus FALAGRIA).

Before species 1245, add:—

Falagria longipes, n. sp.

F. gracillima, nitida, inæqualiter brunneo-picea, parce subtiliter fulvo-pubescent; capite prothoraceque parce vix punctulatis, illo quadrato-orbiculato, hoc elongato, hexagono-cordato, linea media profunda impresso, angulis ipsis posticis acute prominulis; elytris evidentius sed minute punctulatis, sensim magis testaceis sed in disco et versus utrumque latus obscurioribus; abdomine distinctius punctulato, versus basin testaceo-dilutiore; antennis, palpis pedibusque longissimis, infusate testaceis, illis in medio obscurioribus sed ad apicem læte rufo-testaceis, femoribus (ad basin, præcipue in posterioribus, exceptis) plus minus obscuratis.

Long. corp. lin. $1\frac{1}{2}$.

Hab.—Maderenses (*Mad.*); sub cortice laxo necnon inter quisquilias in horto quodam juxta urbem Funchalensem tria exemplaria deprehendi.

The larger size and much longer limbs of this fine *Falagria* would, even of themselves, at once separate it, even at first sight, from the common European *F. obscura*—which is so abundant in most of these Atlantic islands. It may however be further known from that species by the paler or more reddish-brown hue of its head and prothorax (the former of which is relatively rounder, whilst the latter, which has a much deeper dorsal groove extending along its entire length, is much longer and more *rectangular* behind, though with the posterior angles themselves acutely prominent), by the lighter portion of its elytra being clearer or more testaceous, by its abdomen being diluted behind, and by its femora (at any rate

except at their base) being picescent. Its antennæ, also, in addition to being longer, are rufo-testaceous at their base and apex, the intermediate joints being reddish-brown. It appears to be extremely scarce, the only three examples which I have yet seen having been captured by myself, during March of 1870, beneath the loosened bark of a felled tree, and amongst refuse, in Madeira,—namely in the garden of the Quinta dos Jasmineiros, on the western outskirts of Funchal.

p. 455 (genus *PHLÆOPORA*).

(Sp. 1250) *Phlæopora corticina*.

When compiling my Canarian Catalogue (in 1864), I imagined that the present *Phlæopora* offered a few trifling characters sufficient to permit of its being treated as distinct from the common European *P. reptans*. It is the opinion, however, of Dr. Sharp that it ought not to be separated from that species; and, on further consideration, I agree with him in so thinking. Until our late visit to Madeira it had been observed only (so far as these Atlantic Groups are concerned) in the Canarian archipelago; but during the early spring of last year I met with two examples of it in the latter island also,—namely, beneath the bark of a felled Spanish-chestnut tree at “the Mount,” about 1700 feet above Funchal. Hence, its corrected *habitat* and synonymy will be as follows; and perhaps it may be desirable, also, to add an emended diagnosis.

Phlæopora reptans.

P. linearis, angustula, (abdomine nitidiusculo rugosiusque punctato excepto) subopaca, subtilissime punctulata, pube fulvescenti demissâ grossâ vestita; capite prothoraceque nigris, illo subconvexo, hoc (interdum paulo dilutiore) transverso-quadrato, angulis posticis obtusis sed argute determinatis; elytris rufo-ferrugineis, versus basin et latera plus minus obscurioribus; abdomine nigro, ad apicem ferrugineo; antennis brevibus, incrassatis, fuso-, ad basin pedibusque rufo-testaceis.

Long. corp. lin. $1\frac{1}{3}$.

Aleochara reptans, Grav., Mon. 154 (1806). *Phlæopora reptans*, Kraatz, Nat. der Ins. Deutsch. ii. 337 (1858). *Phlæopora corticina*, Woll., Cat. Can. Col. 533 (1864); Id., Col. Atl. 455 (1865).

Hab.—Maderenses (*Mad.*), et Canarienses (*Ten.*, *Gom.*, *Palma*, *Hierro*); sub cortice in intermediis, rarior.

p. 458 (genus HOMALOTA).

Out of the 44 species of *Homalota* which have hitherto been detected in the Madeiran and Canarian archipelagos, 32 have been examined by Dr. Sharp—who it is well known has paid great attention to the members of that genus; and since many of his remarks possess considerable interest, as bearing on the affinities of certain forms, I purpose calling attention to them in my observations as given below. Out of this large number it is at least satisfactory to find that only one (namely my Madeiran *H. obliquepunctata*—which appears to be identical with the *pavens* of Erichson) requires *positively* to be cited under a fresh title; though at the same time it is extremely *likely* that one more name at any rate will have eventually to be changed,—my Canarian *H. subsericea* being in *all probability* conspecific (as indeed I originally suspected) with Mulsant's *H. sericea*; and also that the Teneriffian *H. aleocharoides* will have to be suppressed, as probably a mere phasis of the common *H. clientula*. It is true that the Madeiran *H. montivagans* has been identified by Dr. Sharp with Kraatz's *pulchra*; but in this case no disturbance will be necessary, of the Atlantic nomenclature, the former title having the priority. One endemic form, however, which I had regarded as a mere variety (namely the "*H. sanguinolenta*, var. β " of my hitherto published volumes) has been raised, and I now believe quite correctly so, to the rank of a species; and I have great pleasure in dedicating it to Dr. Sharp, at whose suggestion the alteration has been made.

Amongst these forty-four Madeiran and Canarian Homalotas there are (in *addition* to the *montivagans*, *pavens*, and perhaps *sericea*) at any rate thirteen ordinary European species, all of which appear to have been rightly determined in my 'Coleoptera Atlantidum.' They are as follows: *clientula*, Erich.; *plumbea*, Waterh.; *luridipennis*, Mann.; *gregaria*, Erich.; *longula*, Heer; *fragilis*, Kr.;

palustris, Kiesw.; *analis*, Grav.; *nigra*, Kr.; *atramentaria*, Gyll.; *coriaria*, Kr.; *longicornis*, Grav., and *melanaria*, Sahlb. But of these thirteen there seems a possibility of the Madeiran "*H. longula*" proving to be specifically distinct from the *Canarian* form, which last differs in no respect from the European type.*

(Sp. 1261) *Homalota sanguinolenta*.

A more careful examination, during the past winter, of a very extensive series of this *Homalota* has convinced me that the form which I have hitherto recorded as the "var. β " is in reality specifically distinct; and I am the further corroborated in this from the opinion of Dr. Sharp—who considers that there can be no question on the subject. It will perhaps therefore be desirable to give an emended diagnosis of the *type*, and afterwards (in order to point out the distinctions more accurately) a comparative one of its ally.

Homalota sanguinolenta.

H. aptera, subnitida, dense rugulosa-punctulata, plus minus infusate rufo-testacea, fulvo-pilosa; capite abdomineque (nitido parcius punctulato, ultra medium subdilatato) obscurioribus, *i. e.* sæpius piceis; prothoracelato, ad latera rotundato; elytris brevibus; antennis fusco-piceis, ad basin pedibusque testaceis.

Long. corp. lin. $1\frac{1}{4}$ - $1\frac{1}{2}$.

Homalota sanguinolenta, Woll., Ins. Mad. 547 (1854); Id., Cat. Mad. Col. 173 (1857); Id., Col. Atl. 459 (1865).

Hab.—Maderenses (*Mad.*); inter quisquilias in intermediis editoribusque sylvaticis, vulgatissima.

* Although the present memoir pertains to the Madeiran and Canarian archipelagos only, I may perhaps just state that of the six species of *Homalota* which I recorded for the Cape Verde Group, five have lately been examined by Dr. Sharp—who remarks concerning them as follows: *H. coriaria*, "differs in no respect from the usual, more northern type;" *subputrescens*, "distinct from the Canarian *H. putrescens*, Woll., next to which it must be placed;" *clientula*, "this seems to be a little more strongly punctured than the ordinary European form, and might perhaps come nearer in reality to the *H. orbata*;" *glareosa*, "a very distinct species, to be placed next to *H. testudinea*;" and *carbunculus*, "a well-marked little species, of the *aterrima* group."

An abundant *Homalota* throughout the entire sylvan districts of Madeira,—occurring, normally, from about 2000 to 5000 feet above the sea. It appears to belong to the same group as the European *H. fungi*.

Homalota Sharpiana, n. sp.

H. præcedenti similis, sed plerumque paulo major et vix sublatior; capite (sensim latiore), prothorace elytrisque conspicue clarioribus, sc. læte rufo-testaceis aut testaceo-rufis: abdomine ut in *H. sanguinolenta* sed magis setoso et versus apicem lætius dilutiore; antennis subrobustioribus, ac paululum minus obscurioribus.

Long. corp. lin. $1\frac{1}{2}$ - $1\frac{2}{3}$.

Homalota sanguinolenta, var. β , Woll., Ins. Mad. 547 (1854); (*pars*), Id., Cat. Mad. Col. 173 (1857); (*pars*), Id., Col. Atl. 459 (1865).

Hab.—Maderenses (*Mad.*); in regionibus sylvaticis una cum specie precedente degens, sed in locis valde humidis præcipue abundat. Species in honorem cl. D. Sharp citata, Staphylinorum indefessi oculatissimi scrutatoris.

This is on the *average* a trifle larger, and perhaps broader, than the *H. sanguinolenta*, and its head (which is appreciably more developed), prothorax, and elytra are of a much paler and redder hue,—being clear rufo-testaceous; its abdomen is more diluted at the apex, and more densely studded with long setæ; and its antennæ are a little more robust, and not quite so dark. It is found in company with the *H. sanguinolenta*, but is usually the rarer of the two; nevertheless during the spring of 1870 I met with it in great abundance throughout the entire region of S. Antonio da Serra,—perhaps, on the whole, in somewhat wetter places than those which are generally most favourable to its ally. I have much pleasure in naming it after Dr. D. Sharp, whose indefatigable labours amongst the European *Staphylinidæ* are well known, and to whom I have been much indebted for many valuable remarks on the affinities of some of the Atlantic species.

(Sp. 1262) *Homalota haligena*.

Although manifestly allied (as I have elsewhere stated) to the *H. sanguinolenta*, Dr. Sharp is of opinion that the

haligena is certainly distinct from that species,—differing in the punctuation of the elytra, as well as in the other characters which I have already pointed out.

(Sp. 1264) *Homalota montivagans*.

This species has been identified by Dr. Sharp with the *H. pulchra* of Kraatz (*Nat. der Ins. Deutsch.* ii. 321; 1858); but as my diagnosis was published a year before Kraatz's, the title "*montivagans*" will clearly have the priority. I may mention that during our late sojourn in Madeira I took it sparingly (by sifting fallen leaves and refuse) at S. Antonio da Serra, on the eastern mountains of that island.

(Sp. 1265) *Homalota vagepunctata*.

A Canarian *Homalota* regarded as "a remarkably distinct species" by Dr. Sharp, and apparently somewhat akin to a British one which has lately been enunciated by Mr. Rye (*Ent. Month. Mag.* vii. 6; 1870) under the name of *H. Sharpi*.

(Sp. 1268) *Homalota obliquepunctata*.

A *Homalota* (cited, also, lately, by Mr. Crotch, from the Azores) which Dr. Sharp identifies with the European *H. pavens*, of Erichson; and the corrected synonymy of which will, in consequence, stand as follows:—

Homalota pavens.

Homalota pavens, Erich., Käf. der Mark Brand. i. 689 (1839). *Homalota obliquepunctata*, Woll., Ins. Mad. 549 (1854); Id., Cat. Mad. Col. 174 (1857); Id., Col. Atl. 461 (1865); Crotch, Proc. Zool. Soc. Lond. 381 (1867).

Hab.—Maderenses (*Mad.*); in intermediis per margines aquarum, vel fluentium vel stagnantium, vulgaris.

(Sp. 1269) *Homalota amnicola*.

"A fine and distinct species, near to *H. pavens* and *insecta*."—Dr. Sharp.

(Sp. 1271) *Homalota gregaria*.

So far as the Madeiran Group is concerned, this European *Homalota* had been observed only in Porto Santo—where (as in certain of the Canarian islands) it swarms, beneath stones and shingle, along the edges of the brackish, half-dried streams; but during our late visit to Madeira I met with two examples of it (on the 30th of March, 1870) towards the extremity of the Ponta de São Lourenço,—thus introducing the species into the local list of Madeira proper, and affording another instance of the curious similarity which exists between the fauna of that low eastern promontory and that of Porto Santo. Dr. Sharp says, concerning this *Homalota*, “It is just possible that it is a distinct species from our *gregaria*; but even if so, it is found in England likewise,—for the ‘*H. gregaria*, var. *minor*’ of my paper must be referred to it.”

(Sp. 1273) *Homalota amnigena*.

According to Dr. Sharp this *Homalota* is allied to the *planifrons*, of Waterhouse.

(Sp. 1275) *Homalota longula*.

The Canarian specimens of this fragile little *Homalota* agree in every respect with the ordinary European ones; but those which I have hitherto captured in Madeira are just appreciably smaller and narrower, and likewise (unless indeed the whole of my examples be immature) paler, with their head perhaps a trifle narrower and less square; so that Dr. Sharp is of opinion that they may *possibly* prove to be the representatives of a species which is distinct from the other, however closely allied to it. Still, the differential characters are so slight that I will not at present venture to do more than indicate the Madeiran form as a *geographical* one; though I will propose for it in the following emended diagnosis a varietal name, in the event of future investigations rendering its isolation necessary.

Homalota longula.

H. et synonymia ut in Cat. Can. Col. p. 539; sed adde; var. β , *maderæ* [an species distincta?]—vix minor et

angustior, necnon forsan pallidior, capite sensim angustiore minusque quadrato.

Hab.—Canarienses (*Lanz.*, *Ten.*, *Gom.*), sed "var. β " Maderensibus (*Mad.*) pertinet; inter lapillos ad margines aquarum velocissime cursitans.

The species would appear to possess a wide Atlantic range, having been cited also by Mr. Crotch from the Azores.

(Sp. 1279) *Homalota subsericea*.

Judging from a single type of this *Homalota* which I sent to Dr. Sharp, he is inclined to suspect that the species is not distinguishable from the European *H. sericea*, Muls.: in all probability, therefore, the title "*subsericea*" will have eventually to give way.

(Sp. 1286) *Homalota aleocharoides*.

This will probably prove to be identical with the somewhat variable *H. clientula*. At any rate a single example which has been examined by Dr. Sharp was thought by him to be scarcely separable from that widely-spread species.

(Sp. 1289) *Homalota canariensis*.

"A very distinct species," according to Dr. Sharp—who adds that "its place is in the *H. plana* group" of his arrangement.

(Sp. 1290) *Homalota insignis*.

"A distinct species, of the *merdaria* group," according to Dr. Sharp—who likewise informs me that the nearly-allied *H. læta*, of the Canarian archipelago, appears to him (although closely resembling the Madeiran *insignis*) to be separable from it.

(Sp. 1296) *Homalota cacti*.

Concerning this Canarian *Homalota* Dr. Sharp says—"It is a species unknown to me, and one which should be placed near the *trinotata* of Kraatz."

(Sp. 1297) *Homalota putrescens*.

According to Dr. Sharp, "pretty close to the *boletobia*, Thoms., but really distinct; the male characters are very curious."

(Sp. 1299) *Homalota Waterhousii*.

Dr. Sharp remarks of this Canarian *Homalota*, "a distinct species, its nearest ally known to me being my *subænea*." Fauvel indeed, from a cursory examination of one of my types, has stated that it is identical with the *æneicollis* of Sharp. But in that conclusion I think that he was somewhat hasty; and I may mention that Mr. Rye is clearly of the same opinion,—adding "The *H. Waterhousii*, Woll., is undoubtedly very close to Sharp's *æneicollis* (= *xanthoptera*,* Kby.), but I am nevertheless convinced that it is a good species. It is more *engine-turned* in the punctuation of its elytra, and it is also narrower and more convex; its prothorax is rather less transverse; and the apical joint of its antennæ (in both sexes) is much shorter."

p. 473. After genus *Oxypoda*, insert the following:—

Genus PLACUSA.

Erichson, Käf. der Mark Brand. i. 370 (1837).

Nine or ten examples of a small Staphylinid which I captured, during February of 1870, beneath the bark of a felled Spanish-chestnut tree, at "the Mount" (above Funchal), in Madeira, have been identified by Dr. Sharp with the British *Placusa infima*—which he informs me he has taken under precisely similar circumstances in England; and I will therefore record the species, briefly, as follows:—

Placusa infima.

P. depressiuscula, subopaca, densissime ruguloso-punctata, minute griseo-pubescens, nigra; elytris (præsertim

* Nec *merdaria*, Kraatz,—erroneously identified in Waterhouse's Catalogue with Kirby's *xanthoptera*.

postice) plus minus obscure fuscescentioribus ; prothorace transverso, basi leviter bisinuato ; antennis breviusculis, subrobustis, ad basin pedibusque saturate testaceis.

Long. corp. lin. circa 1.

Placusa infima, Erich., Gen. et Spec. Staph. 196 (1839); Redt., Fna. Austr. 823 (1849); Kraatz, Nat. der Ins. Deutsch. ii. 333 (1858).

Hab.—Maderenses (*Mad.*); sub cortice laxo in castanetis longe supra urbem Funchalensem a meipso parce deprehensa.

Whether the *P. infima* has been naturalized in Madeira, or whether it is truly indigenous, it is useless to speculate; suffice it to observe that it was found within the cultivated districts, at an elevation of about 1700 feet above the sea, and that I did not observe it (in spite of a two months' residence on the actual spot) except beneath the bark of a single Spanish-chestnut tree.

p. 473 (genus ALEOCHARA).

(Sp. 1310) *Aleochara mæsta*.

During our sojourn (in the spring of 1870) at S. Antonio da Serra, on the eastern mountains of Madeira, we met with one more example of this common European *Aleochara*—by sifting rubbish in an outhouse which adjoined our residence. The only Madeiran example which, until then, had come beneath my notice was captured by myself, in 1855, in the Ribeira de Sta. Luzia.

After species 1312, add:—

Aleochara clavicornis.

A. nigra, elytris, antennarum basi, palpis pedibusque fusco-testaceis, nitida, grosse sed vix dense fulvo-pubescent, parce et subasperate punctata ; abdomine apicem versus dilutiore ; antennis crassis et (basi exceptâ) piceis.

Long. corp. lin. $1\frac{1}{2}$.

Aleochara clavicornis, Redt., Fna. Austr. 822 (1849); Kraatz, Nat. der Ins. Deutsch. ii. 108 (1858); Woll., Col. Hesp., Append., 277 (1867).

Hab.—Maderenses (*Mad.*) ; juxta mare in urbe Funchalensi a meipso mense Decembri 1865 semel capta.

In the Appendix to my 'Coleoptera Hesperidum' I stated that "I met with a single specimen of this little *Aleochara*, immediately behind the sea-beach, at Funchal—during the few days that we touched there, in December 1865, on our outward route to the Cape Verdes. Although occurring in central Europe, it appears to be found more particularly in Mediterranean latitudes; and I may add that I took several examples of it, some years ago, in the vicinity of Lisbon—a fact indeed which suggests the possibility of its having perhaps been introduced into Madeira (like, doubtless, many of the stercoreous *Staphylinidæ*), along with cattle, from Portugal. The Madeiran individual was captured on the wing; and we may expect that the species will shortly become abundant in the island, if indeed this is not the case already. Although scarcely agreeing with the diagnosis given by Kraatz, particularly as regards its somewhat larger size, I am indebted to M. Fauvel for identifying it with Redtenbacher's *A. clavicornis*."

p. 476 (genus OLIGOTA).

(Sp. 1314) *Oligota castanea*.

According to M. Fauvel this Canarian *Oligota* is the *rufipennis* of Kraatz; but Dr. Sharp, who (in the absence of a type of the latter for comparison) is inclined likewise to suspect that such may perhaps prove to be the case, considers nevertheless that further evidence is desirable before the two can safely be regarded as conspecific.

(Sp. 1315) *Oligota inflata*.

From information which has been given me by Dr. Sharp, it would appear that the insect which I have hitherto regarded as the *O. inflata*, Mann., is not that species, but the *parva* of Kraatz. Indeed the Canarian examples seem to be distinct from both, and perhaps altogether undescribed; but the Madeiran ones do not differ, apparently, from the European *O. parva*; and I may also add that the *Oligota* from the Cape Verde archipelago which I described in 1867 under the title of "*con-*

tempta” is likewise referable to the *parva*—which would consequently seem to be very widely spread over these various Atlantic islands. In Madeira it is exceedingly common (amongst refuse, and under the bark of felled trees) throughout the cultivated districts—particularly in gardens around Funchal; and in order that it may not be confounded with the still more minute, and darker, *O. pusillima* (which occurs also in the Madeiran Group), I subjoin the diagnosis of it given in my ‘Coleoptera Hesperidum,’ along with its corrected synonymy and habitat.

Oligota parva.

O. linearis, subnitida, parce griseo-pubescent, fusconigra elytris plus minus fuscis, abdominis apice testaceo; capite prothoraceque minutissime punctulatis; elytris abdomineque densius rugosiusque subasperato-punctatis; antennis pedibusque saturate testaceis, illarum articulis 3 ulterioribus parum abrupte incrassatis.

Long. corp. lin. $\frac{1}{2}$ -vix $\frac{3}{4}$.

Oligota inflata, Woll. [*nec* Mann.], Ins. Mad. 562 (1854); Id., Cat. Mad. Col. 184 (1857). *Oligota pygmæa*, Kraatz [*nec* Sol.], Berl. Ent. Zeitsch. 352 (1858). *Oligota parva*, Id., Ibid. 300 (1862). *Oligota inflata*, Woll., Cat. Can. Col. 555 (1864); Id., Col. Atl. 476 (1865). *Oligota contempta*, Id., Col. Hesp. 231 (1867).

Hab.—Maderenses (*Mad.*); inter quisquilias, necnon sub cortice laxo emortuo, præcipue in cultis abundans.

Amongst a large number of specimens of the *O. parva* (and a few of the *pusillima*), which I collected in Madeira during the spring of 1870, there is one which has been identified by Dr. Sharp with his European *O. ruficornis*, and which appears to agree perfectly with English examples (in my own collection) of that species. This therefore is an undoubted addition to the Atlantic catalogue, and consequently I will briefly record it as follows:—

Oligota ruficornis.

O. linearis, subnitida, parce griseo-pubescent, nigra; capite prothoraceque minutissime punctulatis; elytris abdomineque densius rugosiusque subasperato-punctatis;

antennis pedibusque saturate testaceis, illarum articulis 3 ulterioribus parum incrassatis, ultimo sæpius plus minus infuscato.

Long. corp. lin. $\frac{2}{3}$.

Oligota ruficornis, Sharp, Ent. Month. Mag. vi. 232 (1870).

Hab.—Maderenses (*Mad.*); tempore vernali, A.D. 1870, a meipso capta.

This species is a little larger and relatively broader than the *O. parva*; it is also blacker (neither the elytra nor the apex of the abdomen being much, if at all, diluted in hue), and its antennæ are yellowish-testaceous, the apical joint only being usually a trifle infuscate. The only example which I have yet seen from any of these Atlantic islands was (as above stated) taken by myself, during the spring of 1870, in Madeira,—I believe near Funchal.*

p. 477 (genus SOMATIUM).

(Sp. 1317) *Somatium anale*.

Until our late visit to Madeira, I had considered this insect as one of the rarest of the native Coleoptera; but during a residence at S. Antonio da Serra, in the spring of 1870, I met with it in tolerable abundance—not only by sifting dead leaves and rubbish in sylvan cultivated spots, but more especially by shaking piled-up masses of rotten sticks which were thickly overgrown with lichen. Dr. Sharp has called my attention to the fact that it is certainly congeneric with the section of broad-bodied *Oligotas* represented in Europe by the *O. xanthopyga*, *apicata*, and *flavicornis*,—which will probably combine, there-

* In addition to the *O. parva*, *ruficornis*, *pusillima*, and the Canarian *castanea*, there is probably yet one more Atlantic *Oligota*, at least, which remains to be recorded; but as my material (at present available) is too scanty to render it desirable to erect a species in a group thus minute and obscure, I prefer putting it aside until more satisfactory examples shall have enabled me to pronounce upon it with precision. A single specimen however, which I took in Madeira during our late campaign, was singled out by Dr. Sharp as *probably* distinct (in its somewhat smaller head, longer elytra, &c.) from the remainder, and it seems likely also that three (rather imperfect) individuals which I captured formerly in Lanzarote of the Canarian archipelago are conspecific with it. These latter are what I assigned in my Canarian Catalogue to the *inflata*, Mann.; so that it is probable that a fifth species (perhaps as yet undescribed) remains to be recorded, and one which will be found to permeate both the Madeiran and Canarian Groups.

fore, with the *S. anale* into a tolerably well-defined group. Indeed M. Fauvel (*L'Abeille*, vi. 150) actually identified it with Kraatz's *O. xanthopyga*; but as nearly every species which Fauvel has hitherto examined for me, from these various Atlantic islands, has been returned with a most unmistakeably false determination, I have no confidence whatever in his *dictum* as regards *Somatium*.

p. 478 (genus CONOSOMA).

(Sp. 1319) *Conosoma pubescens*.

Without assigning his reasons for the change, Mr. Crotch enters this common Tachyporid into his Azorean Catalogue as the "*sericeus*, Latr."* Strictly, no doubt, Paykull's title of *pubescens* (under which it has almost universally been acknowledged) cannot be retained, for there was already a "*Staphylinus pubescens*" published by De Geer in 1774; but as the latter falls now into a totally different genus (—being a true *Staphylinus*), and the present *Conosoma* is invariably recognized under the trivial name of *pubescens*, I hardly think that it is absolutely necessary to disturb the commonly-received nomenclature.

p. 482 (genus MYCETOPORUS).

(Sp. 1328) *Mycetoporus Johnsoni*.

During our late sojourn in Madeira I took several examples of a *Mycetoporus* throughout the elevated region of S. Antonio da Serra (chiefly by sifting fallen leaves and rubbish) which seem to differ a *little* from the ordinary ones of the *M. Johnsoni*, yet not sufficiently so, I think, to be treated safely as representing more than a slight variety, or state, of that species. I will however give a short diagnosis of it as a "var. β ," assigning to it at the same time a varietal, or subspecific, name—in the event of further material rendering it desirable, at any future time, to cite it as distinct. It appears, on the average, to be a trifle larger and darker than what I have hitherto regarded as the *M. Johnsoni* type,—its antennæ

* I cannot but think that this must be a misprint, and that *Lacordaire* (Faun. Ent. Paris, i. 519; 1835), not "Latreille," was intended.

being appreciably less pale, and its elytra (instead of being concolorous with the prothorax) merging into almost a piceous-black. Its elytra too are perhaps just perceptibly more convex, and have their three longitudinal rows of punctures somewhat more developed. The following brief formula will suffice to place it upon record.

Mycetoporus Johnsoni.

Var. β , *lubrica* [an species vera?]*—*plerumque paulo major, elytris antennisque (præcipue illis) obscurioribus, punctorum seriebus tribus in elytris sensim distinctioribus (*i. e.* minus obsoletis).

Long. corp. lin. 1—vix $1\frac{1}{3}$.

Hab.—Maderenses (*Mad.*); sub folia dejecta necnon inter quisquilias supra S. Antonio da Serra, tempore vernali 1870, haud infrequens.

p. 485 (genus *HETEROTHOPS*).

(Sp. 1337) *Heterothops minutus*.

This widely-spread *Heterothops*, so nearly universal (particularly amongst the refuse around the base of corn-stacks, as well as in gardens and other cultivated grounds) throughout the Madeiran and Canarian archipelagos, would appear after all, according to Mr. Rye (who has studied the genus with particular care), to be inseparable from the common European *H. dissimilis*; and I would desire therefore to correct its synonymy accordingly. I may just add however that M. Fauvel, though with singular want of precision, identified it (*L'Abeille*, vi. 150) with Erichson's *H. prævius*—a species, nevertheless, from which it is totally distinct.*

Heterothops dissimilis.

Tachyporus dissimilis, Grav., Col. Micropt. 125 (1802).
Heterothops dissimilis, Kraatz, Nat. der Ins. Deutsch. ii.

* According to a very valuable paper by Mr. Rye in the 'Ent. Month. Mag.' (iv. 256), the *T. prævius*, apart from the fact of its elytra being perceptibly longer than its prothorax, "may be distinguished from the *dissimilis* (the most abundant and widely distributed in the genus) by its broader head and shorter and stouter antennæ, the joints whereof are sub-obconic, the apical ones being not longer than broad, and the basal ones pitchy-red, by its much more finely and closely punctured abdomen, and by its darker legs."

485 (1858). *Heterothops minutus*, Woll., Ann. Nat. Hist. vi. 53 (1860); Id., Cat. Can. Col. 562 (1864); Id., Col. Atl. 485 (1865).

Hab.—Maderenses (*Mad.*), et Canarienses (*ins. omnes*); inter quisquilias, necnon præcipue sub recremento farris ad basin acervorum tritici sparso, hinc inde vulgaris.

p. 486 (genus *QUEDIUS*).

(Sp. 1339) *Quedius fulgidus*.

The only Atlantic specimens of this insect which I possess are three Canarian ones—from Teneriffe and Gomera; and Dr. Sharp, having a short time ago requested the loan of them for examination, remarks that they seem to divide themselves into two rather different forms,—one being larger with robust feet, and the usual darkened antennæ, and, as it seems to me, corresponding *sufficiently* (though by no means exactly) with the northern type, and the other being smaller, with lighter coloured limbs, slenderer posterior tarsi, and the intermediate antennal joints just appreciably more transverse. He then goes on to add—"Both differ a little from any of the European forms, and if Thomson's attempt at dividing *Q. fulgidus* into several species be sustained, these would have to be considered as two new species." I cannot believe, however, myself, that either one or the other is really distinct specifically from the European type,—though different *habitats* may perhaps have resulted in slightly altered races; nevertheless in the event of future naturalists thinking it desirable to detach them (which I do not in the least anticipate) from the more northern, ordinary state, I would cite the larger one under the varietal name of "*robusta*," and the smaller one under that of "*depau-perata*." Of my three individuals, one (corresponding with the larger state) is from Gomera, and the other two (smaller, and with paler limbs) from that island and Teneriffe.

p. 487 (genus *Ocypus*).

(Sp. 1342) *Ocypus olens*.

This common European *Ocypus*, which occurs in the whole seven islands of the Canarian archipelago (indeed

I have myself captured it in six of them), has been reported by Mr. Crotch from the Azores—where it appears also to be well-nigh universal; so that its total absence from the Madeiran Group is even still more remarkable. It seems to be cited in Dejean's Catalogue under the title of *Emus morosus*, with the *habitat* "Teneriffe;" and therefore the two following references may be added to its synonymy as given in the 'Coleoptera Atlantidum.'

Emus morosus, Dej., Cat. édit. 3, 68 (1837). *Ocypus olens*, Crotch, Proc. Zool. Soc. Lond. 383 (1867).

(Sp. 1346) *Ocypus curtipennis*.

It appears from Harold's recent Catalogue that an *Ocypus* was published by Motschoulsky (*Bull. Mosc.* iii. 87) under the title of *curtipennis* in 1849, so that the present Canarian species will require a fresh name. And therefore as the Baron has himself proposed that of *canariensis*, I may cite the corrected synonymy as follows:—

Ocypus canariensis.

Ocypus curtipennis, Woll. [*nec* Mots. 1849]; Cat. Can. Col. 567 (1864); Id., Col. Atl. 488 (1865). *Ocypus canariensis*, Har., Cat. 581 (1868).

Hab.—Canariensis (*Can.*); in sylvaticis subsylvaticisque intermediis, minus frequens.

(Sp. 1348) *Ocypus atratus*.

It is far from impossible that M. Fauvel's identification of this Lanzarotan and Fuerteventuran *Ocypus*, with the common European *O. ater* (vide *L'Abeille*, vi. 151), may be correct; nevertheless since it certainly possesses a few minute distinctions of its own I will not absolutely suppress it as a species, seeing that it has already been established,—though I am quite willing to admit that its small differential characters (such as they are) may perhaps be merely indicative of a slight geographical variety, or race, of the ordinary northern type; and the more so, since an accurate re-comparison of its mandibles has led me to believe that I was mistaken in

regarding them as less dentate than those of the *O. ater*. So far as I can now detect, it would appear to recede from the latter in its elytra being a little more coarsely and remotely punctured, with the suture perceptibly less raised, and in its head being appreciably shorter (or more straightly and suddenly truncated behind the eyes—which are consequently *nearer* to the basal margin), with the large additional punctures on either side (posteriorly) shallower and less developed. Its prothorax also, if anything, is a trifle longer, just perceptibly narrower (or less downwardly-produced) towards the anterior angles, and with the posterior ones perhaps less completely rounded-off; and Mr. Rye has remarked (*Ent. Month. Mag.* iv. 236) that the basal joint of its middle and posterior tarsi is appreciably thicker and less elongate.

(Sp. 1350) *Ocypus punctatissimus*.

As mentioned in the Appendix to my 'Coleoptera Hesperidum,' M. Fauvel (*L'Abeille*, vi. 151) affirms this Lanzarotan and Fuerteventuran *Ocypus* to be identical with the common European *O. cupreus*. As already stated in no less than three separate volumes, I am far from certain that it may not be in reality a geographical variety of that species; nevertheless its few distinctive features are so constant, and pronounced, that I cannot but regard M. Fauvel's *dictum* as (to say the least) unnecessarily positive. Thus the Canarian specimens are not only a trifle narrower and darker (or less æneous) than British ones now before me, but their head and prothorax are more closely and *very* much more finely punctured,—the former moreover being appreciably less developed, and the latter relatively narrower (or more laterally-compressed): the penultimate segment of their abdomen, also (at any rate in the male sex), is perhaps rather more sinuate along its upper hinder-edge. Kraatz, to whom I sent it for examination when compiling my Canarian Catalogue, returned it as "*Ocypus, cupreo affinis*:" yet the Baron Harold, despite my repeated assertions, and accepting doubtless the *dictum* of Fauvel, identifies it (*Cat. Col.* 582; 1868) with the *cupreus*.

Since it appears, however, that an *Ocypus* (said to be conspecific with the *O. ater*, Grav.) was published under

the title of "*punctatissimus*" in 1843, it is clear that the one from Lanzarote and Fuerteventura, if eventually upheld as distinct from the European *cupreus*, will require re-naming; and I would therefore cite its synonymy afresh, as follows:—

Ocypus fortunatarum.

Ocypus punctatissimus, Woll. [*nec* Duf., Bull. Soc. Pau, 1843], Cat. Can. Col. 568 (1864); Id., Col. Atl. 489 (1865).

Hab.—Canarienses (*Lanz.*, *Fuert.*); sub lapidibus, passim.

Obs.—Species *O. cupreo* affinis (sec D. Fauvel etiam æqualis), sed, nisi fallor, aut vere distincta aut varietas geographica. Differt corpore sub-angustiore, sub-obscurior (minus æneo), necnon capite (sub-minore) prothoraceque (sub-angustiore, magis lateraliter compresso) densius ac multo minutius punctatis.

p. 490 (genus *PHILONTHUS*).

(Sp. 1358) *Philonthus scybalarius*.

It appears necessary to cite this common European *Philonthus* (which is so abundant throughout the Madeiran and Canarian archipelagos, and which is found also at the Azores, Cape Verdes, and even at Ascension) as the *longicornis*, Steph.,—that name having the precedence over Nordmann's "*scybalarius*;" moreover Nordmann appears to have described the species under two different titles—*scybalarius* and *fuscicornis*. Hence the synonymy will be thus:—

Philonthus longicornis.

Philonthus longicornis (Kby.) Steph., Ill. Brit. Ent. v. 237 (1832). *Philonthus scybalarius* et *fuscicornis*, Nordm., Symb. 94 et 96 (1838). *Philonthus varians*, Woll. [*nec* Payk.], Ins. Mad. 583 (1854). *Philonthus scybalarius*, Id., Cat. Mad. Col. 189 (1857); Id., Cat. Can. Col. 571 (1864); Id., Col. Atl. 492 (1865).

Hab.—Maderenses (*Mad.*, *Pto. Sto.*), et Canariensis (*Lanz.*, *Ten.*, *Gom.*, *Palma*, *Hierro*); sub stercore quicquiliisque vulgaris.

(Sp. 1359) *Philonthus marcidus*.

It seems, according to Fauvel (*L'Abeille*, vi. 151), that this *Philonthus*, so universal throughout the Canarian archipelago (but which has not yet been observed in the Madeiras), is conspecific with the European *P. concinnus*, Grav.; so that its synonymy must be cited as follows:—

Philonthus concinnus.

Staphylinus concinnus, Grav., Col. Micropt. 21 (1802). *Staphylinus politus*, (?) Brullè [*nec* Grav.], in W. et B. (Col.) 60 (1838). *Philonthus marcidus*, Woll., Cat. Can. Col. 571 (1864); Id., Col. Atl. 492 (1865).

Hab.—Canarienses (ins. omnes); ab orâ maritima usque ad 9000' s. m. ascendens.

(Sp. 1360) *Philonthus proximus*.

Apparently identical, as first stated by Fauvel (*L'Abeille*, vi. 150), with the European *P. ventralis*, Grav.,—a species which is very widely, though sparingly, spread over these Atlantic archipelagos; having been taken by myself, and others, in the Madeiran, Canarian, and Cape Verde Groups. Its synonymy, therefore must be thus emended:—

Philonthus ventralis.

Staphylinus ventralis, Grav., Col. Micropt. 174 (1802). *Philonthus proximus*, Woll., Cat. Mad. Col. 189 (1857); Id., Cat. Can. Col. 573 (1864); Id., Col. Atl. 493 (1865). *Philonthus ventralis*, Id., Col. Hesp. 238 (1867).

Hab.—Maderenses (*Mad.*, *Pto. Sto.*), et Canarienses (*Ten.*, *Gom.*); in stercore bovino necnon sub quisquiliis, late sed parce diffusus.

(Sp. 1364) *Philonthus punctipennis*.

As mentioned in the Appendix to my 'Coleoptera Hesperidum,' this *Philonthus* is identical with the *turbidus* of Erichson,—a species of a very wide geographical range, having been taken not only in the Madeiran,

Canarian, and Cape Verde Groups, but reported also from Egypt, the Mauritius, Madagascar, and Assam. Its corrected synonymy must stand thus:—

Philonthus turbidus.

Philonthus turbidus, Erich., Gen. et Spec. Staph. 484 (1839). *Philonthus punctipennis*, Woll., Cat. Mad. Col. 192 (1857); Id., Cat. Can. Col. 575 (1864); Id., Col. Atl. 495 (1865). *Philonthus turbidus*, Id., Col. Hesp. 240 (1867).

Hab.—Maderenses (*Mad.*), et Canarienses (*Can.*, *Gom.*); sub quisculis in humiusculis, rarior.

(Sp. 1367) *Philonthus filiformis.*

I took a single example of this very rare little Madeiran *Philonthus* during our late sojourn at “the Mount”—about 1700 feet above Funchal. It is very closely allied to the *P. tenellus*, found in Teneriffe and Gomera; but, in addition to the distinctive characters (of smaller eyes, less deeply sculptured elytra, and more flattened, less coarsely punctured abdominal segments) which I pointed out at p. 577 of my Canarian Catalogue, it may be further known from that species by its head being a little squarer and more developed (being appreciably wider behind the eyes, and more straightly truncated at the base), by its elytra being less picescent and perhaps a trifle longer, and by its antennæ also being somewhat obscurer, and just perceptibly less abbreviate.

Whether the *Philonthus* which is admitted by Mr. Crotch into his Azorean list, on the strength of “a single specimen from a mountain-stream in Fayal,” and which in 1867 he cited (evidently by mistake) as the “*P. proximus*, Woll.” (*vide* Proc. Zool. Soc. 383), but subsequently corrected (*teste* Godman’s Azores, 91; 1870) into “*P. filiformis*,” be this Madeiran species, or its near Canarian ally, I have no means of ascertaining; but in all probability Mr. Crotch is right in his subsequent identification, and it will prove to be the Madeiran one.

p. 497 (genus LEPTACINUS).

(Sp. 1374) *Leptacinus linearis*.

In his Catalogue of Azorean Coleoptera, Mr. Crotch remarks that "Gravenhorst's name [*linearis*] for this species is inapplicable, it having been adopted erroneously from Olivier." On referring however to the 'Col. Micropt.' I cannot perceive anything to indicate that the title *was* borrowed from Olivier at all; though since it is equally certain that there could not be two insects bearing the name "*Staphylinus linearis*" at the same time, and Olivier's (which pertains to our common European *Xantholinus*) had the priority by seven years, it follows as a matter of course that Gravenhorst's specific title must be forfeited, and that we have no choice but to accept the next one in succession,—i. e. Stephens' "*pusillus*." Hence, its synonymy should be thus corrected:—

Leptacinus pusillus.

Staphylinus linearis, Grav. [*nec* Oliv. 1795], Col. Micropt. 43 (1802). *Gyrophynus pusillus*, Steph., Ill. Brit. Ent. v. 264 (1832). *Leptacinus linearis*, Woll., Ann. Nat. Hist. vi. 101 (1860); Id., Cat. Can. Col. 580 (1864); Id., Col. Atl. 498 (1865). *Leptacinus pusillus*, Crotch, Proc. Zool. Soc. Lond. 383 (1867).

Hab.—Maderenses (*Mad.*), et Canarienses (*Lanz.*, *Ten.*); inter quisquilias et præcipue sub recremento ad basin acervorum tritici sparso, hinc inde vulgaris.

p. 498 (genus OTHIUS).

(Sp. 1379) *Othius philonthoides*.

According to Fauvel (*L'Abeille*, vi. 151), this Canarian *Othius* is merely a small variety of my *O. brachypterus*—equally from the Canarian archipelago; but considering that Fauvel's only acquaintance with the two species rests upon a single example of each which I forwarded to him, and I have myself inspected at any rate a certain number of them, and pointed-out their exact differential characters, I must be pardoned if I fail to acknowledge the necessary indisputability of Fauvel's *dictum*. Although

by no means wishing to pronounce for certain that the *O. philonthoides* may not be a depauperated modification of the *brachypterus*, my own opinion is that, while belonging to undoubtedly the same geographical type, it is most decidedly distinct,—it being not only considerably smaller and with more abbreviated antennæ, but likewise less coarsely sculptured as regards both its elytra and abdomen, and with its head even *relatively* less developed.

p. 504 (genus *SCOPEUS*).

(Sp. 1390) *Scopæus trossulus*.

This Canarian *Scopæus* is said by M. Fauvel (*L'Abeille*, vi. 152) to be conspecific with the Mediterranean *S. sericans*, of Mulsant and Rey; but as I possess no type of the latter, in order to judge for myself, I have no means of testing the accuracy of this identification. Assuming it, however, to be correct (which may, or may not, be the case), the corrected synonymy will stand thus:—

Scopæus sericans.

Scopæus sericans, Muls. et Rey, Ann. Soc. Linn. Lyon, 165 (1854). *Scopæus trossulus*, Woll., Cat. Can. Col. 585 (1864); Id., Col. Atl. 504 (1865).

Hab.—Canarienses (*Fuert., Can., Ten.*); inter lapillos per margines aquarum, præcipue in inferioribus ac paululum elevatis, sese occultans.

p. 505 (genus *LITHOCHARIS*).

(Sp. 1395) *Lithocharis fuscula*.

I am indebted to Dr. Sharp for correcting an error into which I had fallen as regards this *Lithocharis*—which appears to be the European *apicalis*, Kraatz, and not the "*fuscula*." The mistake was partly due to the insufficiency of the material from which I was compelled originally to form an opinion; but during our late visit to Madeira I met with it abundantly by sifting garden-refuse at the Quinta dos Jasmineiros, on the western outskirts of Funchal, and the more extensive series thus obtained renders the distinctive characters of the species at once

evident. Mixed-up however with the few examples of the *apicalis* (now before me) which were collected *many years ago* in Madeira (I think in the north of the island), are three which manifestly differ from the rest, and which accord precisely with an English type of the *L. ripicola*, Kr., which I have captured in south Devon. This latter species, consequently, is an addition to the Madeiran list, and an all the more interesting one perhaps through the fact of its having been cited by Mr. Crotch from S. Miguel in the Azores. In order to prevent, therefore, the two species [*ripicola* and *apicalis*], which at first sight much resemble each other, from being confounded *inter se*, I will subjoin diagnoses of them *both*, as follows:—

Lithocharis ripicola.

L. rufo-ferruginea, nitidiuscula, confertim subtiliter (capite rugosiore excepto) punctulata et pube griseâ demissâ parum dense vestita; capite magno, convexo, nigrescenti, rugose punctato, oculis parvis; prothorace rufulo, subquadrato postice angustiore, lineâ mediâ longitudinali læviore; elytris longioribus; abdomine fusco, apice dilutiore; antennis pedibusque rufo-testaceis.

Long. corp. lin. vix 2.

Lithocharis ripicola, Kraatz, Nat. der Ins. Deutsch. ii. 715 (1858); Crotch, Proc. Zool. Soc. Lond. 384 (1867).

Hab.—Maderenses (*Mad.*); inter quisquilias humidæ, minus frequens.

Obs.—*L. apicali* submajor, subrobustior, subnitidior, paulo minus dense pubescens, ac sensim rugosius (præsertim in capite majore) punctulata; prothorace rufescentiore (minus obscuro), minus quadrato (*i. e.*, antice latiore), et in lineâ mediâ læviore; elytris concoloribus (nec postice obscuratis), necnon antennis pedibusque paululum longioribus ac robustioribus.

Lithocharis apicalis.

L. fusco-ferruginea, subopaca, confertissime subtilissimeque punctulata et pube grisea demissa dense vestita; capite convexo, nigrescenti, oculis parvis; prothorace

subquadrato; elytris longioribus, postice plus minus obsolete obscurioribus; abdomine fusco, apice dilutiore; antennis pedibusque subgracilibus, breviusculis, rufo-testaceis.

Long. corp. lin. circa $1\frac{3}{4}$.

Lithocharis fuscula, Woll. [*nec* Mann.], Ins. Mad. 589 (1854); Id., Cat. Mad. Col. 193 (1857). *Lithocharis apicalis*, Kraatz, Nat. der Ins. Deutsch. ii. 715 (1858). *Lithocharis fuscula*, Woll., Col. Atl. 505 (1865). *Lithocharis apicalis*, Crotch, Proc. Zool. Soc. Lond. 384 (1867).

Hab.—Maderenses (*Mad.*); sub quisquiliis in cultis inferioribus præcipue degens; etiam in hortis ipsis Funchalensibus interdum abundat.

Obs.—Species *L. fuscula*, Mann., paulo minor, gracilior, multo subtilius (densissime) punctulata et densius griseo-pubescent, capite minore, nigrescentiore, elytris plus minus inæqualiter nebulosis (sc. postice, necnon interdum in regione scutellari, gradatim obscuratis), antennis pedibusque paulo brevioribus, gracilioribus, clarioribus.

L. ripicola, Kr., subminor, subgracilior, subopacior, paulo densius pubescens, ac sensim minutius (præsertim in capite quadratiore, minore) punctulata, prothorace paululum obscuriore et magis quadrato (*i. e.* postice minus evidenter angustato), elytris postice plus minus nebuloso-obscuratis, necnon antennis pedibusque vix sub-brevioribus.

(Sp. 1400) *Lithocharis tricolor*.

Mr. Crotch, in his list of Azorean Coleoptera, has mentioned (*Proc. Zool. Soc. Lond.* 384; 1867) that Marsham's name "*tricolor*" cannot be retained for this *Lithocharis*, seeing that there was already a *Staphylinus tricolor* published by Fabricius in 1787, and which applied moreover to a totally different insect—the well-known European *Xantholinus*. Hence there appears to be no title for this common species (that of "*melanocephalus*" pertaining to the cognate form with more abbreviated elytra) until we come to Kraatz's "*ruficollis*;" so that the corrected synonymy will have to stand thus:—

Lithocharis ruficollis.

Staphylinus tricolor, Mshn. [*nec* Fab. 1787], Ent. Brit. 516 (1802). *Lithocharis melanocephala*, Woll. [*nec* Fab.], Ins. Mad. 591 (1854); Id., Cat. Mad. Col. 194 (1857). *Lithocharis ruficollis*, Kraatz, Nat. der Ins. Deutsch. ii. 717 (1858). *Lithocharis melanocephala*, Woll., Cat. Can. Col. 588 (1864). *Lithocharis tricolor*, Id., Col. Atl. 507 (1865). *Lithocharis ruficollis*, Crotch, Proc. Zool. Lond. 384 (1867).

Hab.—Maderenses (in *Ilheo Chão solâ* haud observata), et Canarienses (ins. *omnes*); sub lapidibus quisquiliisque vulgaris.

p. 508 (genus *SUNIUS*).

(Sp. 1405) *Sunius angustatus*.

This common European *Sunius*, so widely spread over the Madeiran archipelago, but which has not yet been observed at the Canaries, is cited by Mr. Crotch, in his list of Azorean Coleoptera, under the title "*gracilis*, Payk.,"—accompanied by the remark that "Paykull's name *angustatus* having been pre-occupied, we should use the one he subsequently proposed for it." The species, therefore, must be entered thus:—

Sunius gracilis.

Staphylinus angustatus, Payk. [*nec* Fourc. 1785], Mon. Staph. Suec. 36 (1789). *Staphylinus gracilis*, Id., Ibid. 38 (1789). *Sunius angustatus*, Woll., Ins. Mad. 593 (1854); Id., Cat. Mad. Col. 195 (1857); Id., Col. Atl. 509 (1865). *Sunius gracilis*, Crotch, Proc. Zool. Soc. Lond. 384 (1867).

Hab.—Maderenses (*Mad.*, *Pto. Sto.*, *Bugio*); hinc inde sub lapidibus necnon inter quisquilias, præcipue in intermediis.

p. 511 (genus *STENUS*).

(Sp. 1415) *Stenus fulvescens*.

According to the late Catalogue of Gemminger and Harold, a *Stenus* (from India) was published, by Mots-

choulsky (*Bull. Mosc.* iv. 515), under the name of *fulvescens*, in 1857—the very same year in which my own species was brought out bearing the same title; so that, manifestly, it is necessary that either one or the other of them should be re-named. Without stating his reasons for the selection, the Baron Harold has consequently proposed for the Madeiran species the title “*Wollastoni*,” and its corrected synonymy, therefore, will stand as follows:—

Stenus Wollastoni.

Stenus Heeri, var. β , Woll., *Ins. Mad.* 600 (1854). *Stenus fulvescens*, Id. [*nec* Mots. 1857], *Cat. Mad. Col.* 198 (1857); Id., *Col. Atl.* 513 (1865). *Stenus Wollastoni*, Har., *Cat.* 641 (1868).

Hab.—Maderenses (*Mad.*); in sylvaticis humidis editoribus, sub foliis quisquiliisque parce latens.

p. 514 (genus BLEDIUS).

(Sp. 1418) *Bledius januvianus*.

As stated in my ‘*Coleoptera Hesperidum*,’ this large *Bledius*, which I met with in Lanzarote of the Canarian archipelago (and subsequently, also, in S. Vicente of the Cape Verdes), has been identified by M. Fauvel with Erichson’s *B. vitulus*—a species recorded from Arabia. Not possessing a type of Erichson’s species from which to form an independent opinion, I have no means of testing M. Fauvel’s determination; but assuming it to be correct, the following change in the synonymy will have to be made:—

Bledius vitulus.

Bledius vitulus, Erich., *Gen. et Spec. Staph.* 761 (1839). *Bledius januvianus*, Woll., *Cat. Can. Col.* 593 (1864); Id., *Col. Atl.* 514 (1865). *Bledius vitulus*, Id., *Col. Hesp.* 253 et 280 (1867).

Hab.—Canarienses (*Lanz.*); ad margines lacus ejus salini “*Januvio*” dicti a meipso parce deprehensus.

p. 518 (genus TROGOPHLÆUS).

(Sp. 1434) *Trogophlæus exilis*.

This little *Trogophlæus*, found both in the Madeiran and Canarian archipelagos, is said by Fauvel (*L'Abeille*, vi. 152) to be conspecific with the European *T. pusillus*, Grav.; and I think perhaps that this conclusion may be accepted as probable. Assuming, therefore, M. Fauvel's identification to be correct, the synonymy of the species must stand thus:—

Trogophlæus pusillus.

Aleochara pusillus, Grav., Col. Micropt. 78 (1802).
Trogophlæus pusillus, Kr., Nat. der Ins. Deutsch. ii. 880 (1858). *Trogophlæus exilis*, Woll., Ann. Nat. Hist. vi. 105 (1860); Id., Col. Atl. 519 et Append. 75 (1865).

Hab.—Maderenses (*Mad.*), et Canarienses (*Ten., Gom.*); hinc inde in humidis.

p. 522 (genus HOMALIUM).

(Sp. 1440) *Homalium sculpticolle*.

In the Appendix to my 'Coleoptera Hesperidum' I mentioned that this Canarian *Homalium* had been identified by M. Fauvel with the European *H. Allardii* of Fairmaire. There was clearly however some mistake in Fauvel's determination, for the *H. Allardii* is in reality more akin to the Madeiran and Canarian *H. ocellatum*, and has scarcely anything in common with the *sculpticolle*. The latter, as stated elsewhere, finds very much nearer allies in the common *H. riparium* and *fossulatum* of more northern latitudes. Hence, the note (above alluded to) in the Appendix of the 'Coleoptera Hesperidum' must be cancelled.

(Sp. 1441) *Homalium ocellatum*.

After what I have just mentioned under the preceding species, it will be seen that it is the *H. ocellatum* (not the *sculpticolle* as asserted by Fauvel) which so nearly resembles the European *H. Allardii*; nevertheless it would appear that even the *ocellatum* cannot be abso-

lutely referred to the latter; for Mr. Rye, alluding to the *double* mistake of Fauvel, and after a very careful inspection of my type of the *ocellatum* (now in the British Museum), adds that the *H. ocellatum*, when compared with the *Allardii*, “appears to be lighter, shorter, and broader, with bright yellow ocelli and clear testaceous legs, and with a more transverse thorax—of which the sides are more rounded and more contracted behind, and the hinder angles more prominent (the fovea there being deeper), with rather shorter and less parallel elytra, which are less strongly and scarcely rugosely punctured, and with the abdomen not so dull, but with evident scattered punctuation.” And Mr. Rye then goes on to observe that “if, nevertheless, in spite of these discrepancies, Mr. Wollaston’s insect is to be considered identical with the *H. Allardii*, it will not disturb any references,—for the *ocellatum* was described in the ‘Insecta Maderensia’ in 1854, and Fairmaire’s species in the French ‘Annales’ for 1859.” [*Vide Ent. Month. Mag.* iv. 236.]

(Sp. 1443) *Homalium clavicorne*.

This very distinct Madeiran *Homalium*, although so greatly attached to the rotten wood of the decaying Euphorbias, does not appear to be (as I had supposed) peculiar to that singular race of plants; for during our residence at “the Mount” (about 1700 feet above Funchal), in the winter and spring of 1870, I took it in tolerable profusion out of the soft putrid stems of the fragrant *Cestrum vespertinum*, known as the “Béllas-nôites” by the Portuguese inhabitants of the island. Still, I believe it to be normally a *Euphorbia*-infesting species—for the “Béllas-nôites” is not indigenous in Madeira, and it is likewise reported by Mr. Crotch (*Proc. Zool. Soc. Lond.* 385; 1867) to have been met with abundantly “in *Euphorbia*-stems in Flores,” the most western island of the Azorean archipelago.

After species 1444, add the following:—

Homalium concinnum.

H. elongatum, subdepressum, nitidum, (abdomine excepto) minutissime vix pubescens; capite (triangulari,

nigro) prothoraceque (omnino, sed præsertim in limbo, dilutiore) rugose punctatis; elytris inæqualiter piceo-testaceis, rugose punctatis (punctis obsolete longitudinaliter, quasi in strigis irregularibus, dispositis); abdomine multo subtilius punctulato, sed grossius pubescente; antennis (brevibus) pedibusque testaceis.

Long. corp. lin. circa $1\frac{1}{2}$.

Variat colore plus minus obscuriore, corpore interdum omnino piceo-nigro.

Staphylinus concinnus, Msh., Ent. Brit. 510 (1802).
Omalius concinnum, Erich., Gen. et Spec. Staph. 886 (1839); Kraatz, Nat. der Ins. Deutsch. ii. 991 (1858).

Hab.—Maderenses (*Mad.*); in granariis ad S. Antonio da Serra parce lectum.

A few examples of this European *Homalius* were taken by my wife in a granary at S. Antonio da Serra, during our sojourn at Madeira in the spring of 1870, as also by sifting rubbish in an old outhouse adjoining it. I have little doubt therefore that the species (which was found in company with various *Cryptophagi*, *Latridii*, and other insects of like habits) has been introduced into the island from more northern latitudes. And this seems the more probable, since I have captured the *H. concinnum* under somewhat similar circumstances (namely amongst the refuse around the base of hay and corn-stacks) in England. It is very closely allied to the (equally European) *H. deplanatum*, but is, *inter alia*, a little brighter (being less appreciably pubescent) and more coarsely punctured, with its antennæ and elytra a trifle shorter,—the punctures of the latter having a *tendency*, moreover, to arrange themselves in irregular longitudinal strigæ.

p. 524 (genus MEGARTHUS).

(Sp. 1446) *Megarthus longicornis*.

Although so universal throughout the Canarian Group, I had until lately considered this *Megarthus* as somewhat scarce at Madeira. But during our late sojourn in that island we met with it abundantly at "the Mount" (from about 1700 to 1900 feet above Funchal), by sifting fallen leaves and rubbish, and likewise, though in less profusion, at S. Antonio da Serra. It would perhaps

have been more correct if, in the 'Coleoptera Atlantidum,' I had compared it with the European *M. denticollis*. Indeed Mr. Rye, who a short time ago had the kindness to give it a very careful examination, remarks "Not so near to the '*M. sinuaticollis*' as to the *denticollis*; but its long thin antennæ, very remote punctation, and weak *superficial* male characters (as regards the legs) readily separate it from that species. There are certainly no European members of the genus in De Marseul's last Catalogue that will suit it."
