

described, and all the spinules are more or less connected together or webbed by it.

Royal College of Surgeons, October 14, 1856.

DESCRIPTION OF PLATE XV.

- Fig. 1. The perfect young *O. rosula*, magnified 100 diameters.
 Fig. 2. The under surface of disk as seen when alive, magnified 100 diam.
 Fig. 3. The spines of young *O. rosula* from the disk.
 Fig. 4. Palmate or basal spines of the ray.
 Fig. 5. The reticulate spines.
 Fig. 6. The hooked spines from the extremity, and a portion of the under surface of the ray.
 Fig. 7. The spines of young *O. rosula*, showing animal membrane.
 Fig. 8. Perfect spine of adult *O. rosula*, magnified 100 diam.

XXXIII.—*Monograph of the genus Catops*.

By ANDREW MURRAY, Edinburgh.

[Continued from p. 318.]

Exotic species.

38. *C. marginicollis*, Lucas.

Catops marginicollis, Lucas, Expl. de l'Algérie, Anim. Art. ii. p. 224. pl. 21. fig. 4.

"Capite nigro, granario; thorace subgranario, nigro, ferrugineo marginato, angulis posticis subacuminatis; elytris nigris striatis subtilissimis confertissime punctulatis; corpore infra nigro, subtiliter granario; pedibus antennisque ferrugineis.
 "Long. $2\frac{1}{2}$ lin., lat. $1\frac{1}{2}$ lin.

Fig. 39.



"The head is black, granulated, and scarcely pubescent. The maxillary and labial palpi, as well as the antennæ, are entirely ferruginous. The thorax pubescent, very lightly granulated, black, with the lateral margins ferruginous; it is very gently convex, rounded on the lateral parts, with the angles on each side of the base less projecting, and a little less acuminate than in *C. celer*, Luc. The scutellum is black, granulated. The elytra, of the same colour as the scutellum, pubescent, have a very fine and very dense punctuation; they are striated, and the striæ are sufficiently well marked. All the body below is of a deep brown, and is very finely granulated. The legs are entirely ferruginous*."

This species was taken by M. Lucas at Oran, in the west of Algeria, under stones, in the end of February.

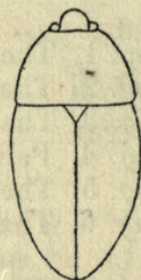
* Lucas in *loc. cit.*

39. *C. rufipennis*, Lucas.*Catops rufipennis*, Luc. Expl. d'Algérie, Anim. Art. ii. p. 224. pl. 21. fig. 3.

"Capite nigro, granario; thorace subtilissime granario, nigro, ad latera posticeque rufescente marginato; elytris granariis rufis, ad suturam utrinque unistriatis; corpore infra nigro; pedibus rufis tibiisque fusco-maculatis.

"Long. $2\frac{1}{4}$ lin., lat. 1 lin.

Fig. 40.



"This is smaller than *C. celer*, from the same country (Algeria), and cannot be confounded with it, on account of the colour of its elytra, which are entirely ferruginous. The head is black, granulated. The maxillary palpi, as well as the labial palpi, are reddish. The antennæ are ferruginous, with the last joints a little brownish. The thorax slightly pubescent, very finely granulated, and tolerably convex; black, margined with ferruginous on the sides and behind; the sides are rounded, as are also the angles on each side of the base. The scutellum is black, pubescent, and very finely granulated. The elytra very pubescent, ferruginous; they are finely granulated, striated, and a sutural stria appears pretty deeply impressed on each side of the suture. The whole body below is black. The legs are of the same colour as the elytra, with the thighs marked with brown, and the tibiæ finely denticulated*."

Met with by M. Lucas on a single occasion, under stones, in the month of January, in the ravines of Djebel Santon, in the neighbourhood of Oran.

40. *C. fungicola*, Kolen.*Catops fungicola*, Kolenati, Meletemata Ent. fasc. v. 51.

"Castaneus, nitidus, pubescens, punctulatus; capite brunneo, antennis pedibusque testaceis.

"Long. 0.0025, lat. 0.00133.

"Head blackish-brown, shining, scarcely punctulated; thorax testaceous or chestnut, pubescent, very finely punctulate; elytra convex, chestnut, shining, narrowed behind, rounded, punctulate. Scutellum brown, punctulate.

"Lives in fungi in the woods of Mount Ssarijal, in the province of Elisabethopolis†."

This species is unknown to me, and I place it in this group merely from the colour, none of the characters on which I

* Lucas in *loc. cit.*† Kolenati in *loc. cit.*

have rested my subdivisions of the genus being mentioned by M. Kolenati.

41. *C. pusillus*, Motsch.

Catops pusillus, Victor Motschoulsky, Bull. Soc. Imp. Mosc. 1840, p. 175.

“Ovalis, cinnamomeus, sericeo-pubescent; thorace transverso, angulis posticis subproductis, lateribus rotundatis; antennis pedibusque dilutioribus pubescentibus. Fig. 41.

“Long. $\frac{1}{2}$ lin., lat. $\frac{1}{3}$ lin.



“One of the smallest species of *Catops*, and covered with a close golden pubescence. The antennæ are a little pilose, of the length of the head and thorax together, the eighth joint much smaller and shorter than the seventh. The thorax is transverse, rounded on the sides, and when looked at from in front, it appears even a little broader than the elytra; it is cut straight at the base, and has the posterior angles a little projecting backwards. The scutellum is triangular. The elytra are oval, *obliquely emarginate at the extremity towards the suture, with the exterior angle projecting in a point*. On each side of the suture there is an impressed line which reaches a little beyond the half of the elytra. The anterior tibiæ are a very little dilated*.”

The emargination of the elytra at the apex of the suture furnishes an easy character for distinguishing this species.

M. Motschoulsky mentions that he took it in spring at Ananur, on the great military route of Georgia, and in the month of August, near Davial, on the same route. It was found under stones, and in the earth, among roots, in obscure places. The specimens which have been recently excluded are often of a testaceous colour.

42. *C. pallidus*, Menetries.

C. pallidus, Menetr. Cat. rais. des Obj. de Zool. rec. dans un Voyage au Caucase, &c., p. 169.

“Oblongo-ovatus, subdepressus, ferrugineus, breviter griseo-pubescent; elytris obsolete punctulatis, apice subacuminatis.

“Long. 2 lin., lat. $1\frac{1}{4}$ lin.

“Found at Bakon†.”

The above meagre description is all that we know of this

* Motschoulsky in *loc. cit.*

† Menetries in *loc. cit.*

species; it would, however, rather appear to belong to this group.

43. *C. Dauricus*, Motsch.

Catops Dauricus, Motsch. Remarques sur la Collection de Col. Russ. de V. de Motschoulsky in Bulletin de Moscou, vol. xviii. 1845.

“Testaceo-ferrugineus; thorax angustior quam elytra.

“A species remarkable on account of its thorax being much narrower than the elytra, which are of a tolerably broad oval, and acuminate at the extremity. The *facies* approaches nearly the genus *Pteroloma*, but the body wholly removes it. It is of a ferruginous-yellow colour, and is found on the summits of the alps of Hamar-Daban in Mongolia*.”

I have not seen this species in nature, and the above description is too short to enable us to form an accurate idea of its form or affinities.

44. *C. basilaris*, Say.

Catops basilaris, Say, Journ. Acad. Philadelphia, iii. 194.

“Niger, brevissima flavescens pubescentia vestitus; elytris brunneis, pallidioribus ad basin.

“Long. $1\frac{1}{2}$ lin.

“Body black, covered with numerous short yellowish hairs; eyes fuscous; antennæ blackish, two basal joints yellowish-white; eighth joint very small, transverse, shortest; the seventh and three terminal joints largest, the latter somewhat piceous; thorax transverse, quadrate, convex, rather narrower before; lateral edge regularly arcuated, basal and anterior edge sub-rectilinear; angles rounded; scutellum triangular; elytra brownish, paler at base; a distinct subsutural impressed line; labrum and palpi pale piceous, beneath blackish piceous; feet dark piceous.

“Found under wood at Engineer Cantonment, on the Missouri†.”

I believe it is not known what species Say had in view in describing this. Dr. Leconte, whose knowledge of American entomology is perhaps greater than that possessed by any other naturalist, includes it, in his ‘Synopsis of the *Silphales* of America,’ among those which were unknown to him. Say’s description, I think, seems to point either to an affinity with *C. tristis* or *C. fumatus*, and I place it in this group with doubt.

* Motschoulsky in *loc. cit.*

† Say in *loc. cit.*

45. *C. opacus*, Say.

Catops opacus, Say, Journ. Acad. Nat. Sc. Philad. v. 184; Leconte, Syn. Silph. Amer. in Proceedings of Acad. Philad. (1853) 280.

"Ater, punctulatus, subtiliter pubescens; thorace semi-elliptico, basi late rotundato; elytris obsolete striatis; tibiis calcaribus magnis armatis. Fig. 42.

"Long. 2 lin.

"New York and Ohio: rare.

"The male has three joints of the anterior tarsi strongly dilated; the middle tarsi are not dilated. The sutural stria of the elytra is deeper than the others*."

46. *C. terminans*, Leconte.

Catops terminans, Lec., Agassiz, Lake Superior, 218; Lec. Synops. Silph. N. Amer. Proc. Acad. Philad. vi. 1853, 282.

"Oblongo-ovalis minus convexus, nigro-piceus, subtiliter pubescens; elytris distinctius rugose punctulatis, stria suturali profunda; thorace brevior, antrosum valde angustato, angulis posticis vix productis; pedibus fuscis; antennis apice flavis, basi testaceis. Fig. 43.

"Long. 1 lin.



"Very abundant at the mouth of the Pic river, on the north side of Lake Superior, under dried animal matter. This species is broader and less convex than *C. consobrinus*, and is easily known by the more distinct punctuation, and by the absence of the transverse lines. The thorax is densely and finely punctulate; it is about twice as wide as its length, strongly narrowed in front, rounded on the sides, especially anteriorly, slightly emarginate at apex, truncate at base, and very slightly sinuate at the posterior angles, which are scarcely perceptibly acute. The anterior tarsi of the male, and the first joint of the middle tarsi, are dilated†."

47. *C. monilis*, mihi.

Oblongo-ovalis, fuscus; antennis capite et thorace longioribus, articulo octavo minutissimo, articulis ante sextum non gradatim crescentibus magnitudine, fuscis, articulo ultimo et articulis ad basin ferrugineis; thorace leviter, elytris fortiter transversostrigosis, his stria suturali impressis; pedibus spinosis.

Long. $1\frac{1}{2}$ lin., lat. $\frac{3}{4}$ lin.

Fig. 44.



Oblong-oval, nearly of the same size and form as *C. alpinus*,

* Leconte in *loc. cit.*

† Leconte in *loc. cit.*

brown, a little darker behind and on the middle of the thorax. The antennæ are longer than the head and thorax; the basal joints (first, second, third, fourth and fifth) and the last joint are ferruginous-yellow; the seventh, eighth, ninth and tenth joints blackish-brown; first joint large, and longer than second; second thin and slender, a little longer than third; third, fourth and fifth thin and slender and very short, nearly all of equal length; sixth shorter than these, but rather broader; seventh largest and broadest of the whole; eighth excessively minute; ninth and tenth of equal length and thickness, rather narrower than the seventh, their sides more parallel than is the case in other species; eleventh of the same breadth as the two preceding. Head broad, rugosely punctate; mouth broad, concolorous. Thorax pale on the margins, lightly transversely strigose. Elytra more decidedly transversely strigose, with the suture and a sutural stria somewhat depressed, and indistinct traces of striæ towards the apex. Scutellum equilaterally triangular, somewhat depressed, clothed all over with a concolorous fuscous pubescence; beneath the pubescence the surface is somewhat shining; under side and legs fuscous-brown, paler than above; tibiæ slightly and delicately spinous, middle tibiæ slightly bent.

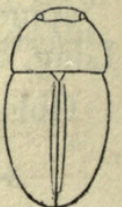
This species has very much the appearance of *alpinus*, but the structure of the antennæ is different. They are longer than in that species. The club also does not gradually increase in thickness from the first joint onwards till it reaches its greatest breadth at the seventh, and then taper away again, as in *alpinus*; the club from the eighth joint to the middle of the last joint is of equal thickness, giving a somewhat moniliform appearance to the club, from which character I have given its name. In *alpinus* the third joint is thicker and longer than the second, while here it is smaller and slenderer. In *alpinus* the fourth, fifth, sixth and seventh joints go on increasing in thickness, while here the third, fourth and fifth form a narrow slender peduncle, all being of nearly equal size; the sixth and eighth joints here are much smaller than in *alpinus*. The pubescence in this species is also darker and duller and more sparing than in *alpinus*.

It was found at Caraccas by M. Sallé, and presented to me by his relative M. Chevrolat.

48. *C. spinipes*, mihi.

Elongato-ovalis, fuscus; antennis capite et thorace vix longioribus, articulis ante sextum gradatim crescentibus magnitudine, fuscis, articulis ultimis et primis pallidioribus; thorace leviter et elytris fortiter transversostrigosis, his stria suturali impressis; pedibus spinosis. Long. 1 lin., lat. $\frac{1}{2}$ lin.

Fig. 45.



A good deal smaller than the preceding (*C. monilis*), to which it has considerable resemblance, but is more elongate in form. The antennæ are not quite so thick; the joints do not continue thin, short and slender from the second to the sixth, but go on increasing in breadth from the second to the seventh; the second and third are nearly of equal length; the fourth and fifth are each shorter than the third, and gradually but slightly increase in breadth; they are all of nearly the same length; the sixth is shorter than the fifth, but not very minute; the seventh is the largest joint in the antenna; the eighth is minute, but not nearly so much so as in *monilis*; the ninth is as broad but shorter than the seventh; the tenth is a little narrower than the ninth, and the eleventh a little narrower than the tenth, otherwise they are nearly of the same size. The antennæ are brown, with the exception of the two first joints which are clear ferruginous, and the three last which become gradually paler to the tip. The head and mouth are broad; the former is rugosely punctate and darker than the rest of the body. The thorax is short, darkest in the middle, transversely rugose. The elytra are very distinctly transversely strigose; there is a sutural stria impressed on them. The scutellum is small, elongate triangular, depressed, and darker than the elytra. The whole body is covered with a dense fuscous pubescence of the same colour throughout, but throwing a reflexion like a lighter band across the elytra towards the apex when viewed in certain lights. The under side is of the same colour as the upper. The legs are paler; they are very distinctly spinose, a character which is found in other species, but which, from being very marked here, I have taken to furnish a suitable name to the species. The middle tibiæ are a little bent. In the males the anterior tarsi are widened, but the middle tarsi are not.

Found at Caraccas by M. Sallé, and presented to me by M. Chevrolat.

Group III.

Mesosternum keeled; middle tarsi alike in both sexes.

1st Subdivision. *Body polished and shining; the elytra not transversely strigose.*

49. *C. lucidus*, Kraatz.

C. lucidus, Kraatz, Stett. Ent. Zeit. xiii. 439. 30.

"Oblongo-ovatus, nigro-piceus, *nitidus*; *antennis pedibusque ferrugineis*; thorace transverso, basi latiore lævi *ad angulos obtusos utrinque distincte sinuato*; elytris flavo-testaceis, apice piceis, passim minus profunde punctatis.

"Long. $1\frac{3}{4}$ lin."

Not having seen this species, I can only reproduce M. Kraatz's description, which is as follows:—

"A new species differing so much from all the species of *Catops* known to me, by its shining glittering upper side and clear yellow elytra, that I cannot class it under any one of Erichson's groups: not only so, but I was not wholly averse to have based a new genus upon it, if in spite of the many differences there was not a form of transition to that of the perfect *Catops* in a species which I possess (the only one hitherto accessible), and a species from Mesopotamia in the Royal Museum (of Berlin) (though in other respects differing little from the *C. lucidus* of this country). The antennæ are nearly of the length of the elytra, entirely of a lively reddish-brown, stout; first joint distinctly longer than the second, and as well as it a little more slender than the remaining joints; third a little stouter than the fourth, nearly as long as the first; fourth, fifth and sixth are reverse cone-shaped, the following joint always somewhat shorter than the preceding; the seventh is equal to the ninth and to the tenth in length, which is the same as the length of the fourth joint, but somewhat stouter; the eighth is somewhat shorter but scarcely more slender than the joints which encompass it; the eleventh is almost of the length of both the preceding, from its base to its last third growing gradually broader, from thence cone-shaped acuminate. The head is black, shining, not punctate; the mouth yellowish-red. The thorax at the base is more than double as broad as long, gradually narrowed from the base towards the front, so that the greatest breadth is before the middle*, gently rounded on the sides; the anterior angles are obtuse, somewhat sloping downwards, the posterior angles likewise obtuse and rounded off; the posterior margin is distinctly sinuate and depressed over the moderately densely finely punctate scutellum, and on each side towards the posterior angles, so that the posterior angles project slightly and are a little reflexed; the upper side is dark pitchy-brown, clearer on the sides and posterior angles, flatly arched, bright shining. The elytra are symmetrical oblong, only feebly narrowed behind, shining pale yellow, brownish towards the scutellum, dark pitchy-brown at the apex, disappearing at some distance, with punctures irregularly arranged in rows and clothed with solitary yellowish hairs; the under side is shining black, not punctured, the last abdominal segment yellow. The legs are lively reddish-brown.

* *Sic in orig.*, viz. "von der Basis an nach vorn allmählig verengt, wodurch die grösste Breite vor der Mitte." It should probably have been, "greatest breadth behind the middle."

"One example from Kuhr, probably found in Dalmatia*."

I am unable to give any description of the species from Mesopotamia above referred to by M. Kraatz.

50. *C. cryptophagoides*, Mannerheim.

Catops cryptophagoides, Mann. Bull. Soc. Imp. Mosc. 1852, pt. 2. p. 333.

"Oblongo-ovatus, convexus, rufo-ferrugineus, nitidus, glaberimus; antennis extrorsum valde incrassatis pilosis, articulo octavo præcedente multo minore; thorace lævi, antrorsum rotundato, angulis posticis supra elytra rotundato-productis; elytris disperse punctatis, subrugulosis.

"Long. $\frac{2}{3}$ lin., lat. $\frac{1}{3}$ lin.†"

I have not seen this species. M. Pippingsköld collected it in the island of Sitka under a stone.

Mannerheim states that in form it comes very near the genus *Colon*, but he rather referred it to *Catops* from the structure of the antennæ, although at the same time differing from both by the polished smoothness of its body. From this indication it should probably rank beside *lucidus*, Kraatz, and I have accordingly placed it in this subdivision.

2nd Subdivision. *Body not polished and shining; elytra transversely strigose.*

51. *C. strigosus*, Kraatz.

Catops strigosus, Kraatz, Stett. Ent. Zeit. xiii. p. 441. 31.

Fig. 46.

Ovatus, rufo-ferrugineus; antennis longioribus, obsolete clavatis, ferrugineis; thorace transverso, angulis posticis fere acuminatis; elytris substriatis, evidenter transversim strigosis, *apice acuminatis*.

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



The antennæ are slender, entirely reddish-brown; first, second and third equal in length; fifth scarcely longer than those on each side of it, half as large as the first joint; seventh somewhat longer and stouter than the foregoing, equal to the ninth and tenth; eighth scarcely half as long and a little thinner than the seventh; eleventh somewhat longer than the tenth, moderately sharply acuminate. The head is red-brown, densely and finely punctate. The thorax is nearly $2\frac{1}{2}$ times as long as broad; at the base it is of the same breadth as the elytra; it is gradually narrowed towards the front, gently rounded on the sides; the

* Kraatz in *loc. cit.*

† Mannerheim in *loc. cit.*

upper side is moderately densely clothed with golden-yellow pubescence, coarsely granulated; the anterior angles are obtuse, sloping downwards; the almost pointed posterior angles project pretty strongly backwards embracing the elytra, so that the posterior margin appears to be strongly sinuated on both sides near the elytra. The elytra are oval, strongly narrowed from the middle towards the apex, each tolerably sharply acuminate, moderately densely and finely pubescent, and deeply transversely strigose, with distinct traces of longitudinal striæ. Under side and legs reddish-brown.

Kraatz says it is of a reddish colour, but the only specimen I have seen was black.

Of the form of the *C. velox*, Spence, approaching most to it, but a little smaller, more acuminate behind, and easily recognizable by its keeled mesosternum; distinguished from the following species by its different form and longer antennæ; and from *C. acicularis*, Kraatz, the only other species of the preceding groups which has transversely wrinkled elytra, by its smaller size and shorter and broader form.

Found in Austria: extremely rare.

52. *C. validus*, Kraatz.

Catops validus, Kraatz, Stett. Ent. Zeit. xiii. 441. 32.

"Oblongo-ovatus, niger, fusco-sericeus; *antennis rufo-piceis, clavatis*; thorace, elytrisque transversim strigosis, apice truncatis. "Long. $2\frac{1}{2}$ lin.

"This distinct species comes near the following in the form of the body, and only deviates from them by its greater size and the different structure of the antennæ. I confine myself therefore to describing the latter more strictly.

"Antennæ reddish-brown; first joint at least twice as long and half as strong again as the second, somewhat more slender at the base; second very small, at the end nearly as broad as long, somewhat more slender at the base; *third at least three times as long as second*, for the last third part becoming gradually somewhat broader; *fourth equal in length to second*, but somewhat broader; fifth equal to fourth; *sixth somewhat shorter and broader than the eighth*; *seventh somewhat shorter, but just as broad as the ninth*; eleventh distinctly more slender and half as long again as tenth; from the base to the apex conical acuminate, somewhat paler at the tip. Agreeing in other respects with the following species.

"Two examples from Stentz in Hungary are in the Royal Museum, under the name of *C. validus**."

* Kraatz in *loc. cit.*

Not having seen this species in nature, I have merely copied the description of Kraatz. In size it is a third larger than the following species; but although that of itself would not be sufficient to constitute it a distinct species, the differences in the structure and proportion of the joints of the antennæ are too great to allow us to hesitate in according it a place as such. The principal differences in these proportions have been printed in italics in the respective descriptions of the antennæ of these species.

53. *C. sericeus*, Fabr.

Catops sericeus, Fabr. Syst. El. ii. 564. 2; Erichs. Käf. d. M. Br. i. 243. 16; Sturm, Deutschl. Fn. xiv. 43. 22. t. 278. f. d. D; Heer, Fn. Helv. i. 384. 21; Redt. Fn. Aust. 143. 1; Kraatz, Stett. Ent. Zeit. xiii. 442. 34; Fairm. & Laboulb. Fn. Ent. Fr. i. 305. 21.

Helops sericeus, Panz. Fn. Germ. 73. 10.

Ptomaphagus truncatus, Illig. Mag. i. 42. 4.

Catops truncatus, Gyll. Ins. Suec. i. 279. 3.

Choleva villosa, Latr. Gen. Crust. et Ins. ii. 29. 5; Spence, Linn. Trans. xi. 152. 12.

Mycetophagus picipes, Kug. Schneid. Mag. 558. 9.

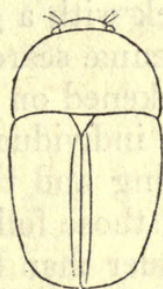
Mordella silphoides, Marsh. Ent. Brit. i. 493. 19.

Var. minor. *Catops sericatus*, Chaud. Bull. de Mosc. 1845, no. 3. 199.

Oblongo-ovatus, niger, fusco-sericeus; antennis brevioribus, nigro-piceis, *ad basin ferrugineis*; thorace elytrisque transversim strigosis, his apice truncatis.

Long. 1-1½ lin.

Fig. 47.



Oval, a little depressed above, of a deep blackish-brown, very silky. Antennæ about as long as the thorax, perceptibly thickened towards the extremity; first joint twice as long as the second; *second and third nearly equal in length and thickness; fourth and fifth nearly equal in length, each shorter than second or third; sixth about the same length as fifth, but decidedly broader, twice as long as eighth, and not so broad; seventh a very little longer and much broader than sixth; eighth less than half as long as seventh, and scarcely less broad; ninth and tenth each about the same length as seventh, but broader; eleventh more slender and half as long again as tenth, and only commencing to be acuminate past its middle; the apex obtuse, reddish-brown, lighter at the base, deeper at the apex.* Head black, large, finely punctate. Thorax shining black, finely transversely wrinkled, a little broader than long, somewhat narrowed in front; posterior angles pointed, projecting backwards, which makes the posterior margin broadly arched. Elytra of a brown, more or less dark, finely transversely strigose, becoming narrower from the base to the extremity,

which is obliquely truncate. Legs brown; thighs often blackish. Size very variable.

Distinguished at first sight from all the allied species, except *varicornis* and *validus*, by its truncate elytra. From *C. varicornis* it is distinguished by the apex of the antennæ not being light-coloured, and from *C. validus* by its smaller size and by the different proportions of the joints of the antennæ.

Common in Britain, and generally distributed all over Europe.

54. *C. varicornis*, Rosenhauer.

Catops varicornis, Rosenh. Beitr. zur Ins. Fn. Eur. i. 23; Kraatz, Stett. Ent. Zeit. xiii. 442. 33.

Oblongo-ovatus, niger, fusco-sericeus; antennis brevioribus, *basi apiceque ferrugineis*; thorace elytrisque transversim strigosis, his apice truncatis.

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

Closely allied to *C. sericeus*, and principally distinguished by the form and colour of the antennæ, which are shorter and ferruginous both at the base and the apex, and the beetle is usually somewhat darker. The head is broad, finely punctate, shining black with a grey pubescence; the mouth ferruginous-red. The antennæ scarcely reach beyond the half of the thorax, and are thickened on the outer side so as to be distinctly club-shaped. The individual joints are as in the *C. sericeus*, but form a rounder oblong and thicker club. The first five joints are ferruginous-red, those following brownish; the eighth shorter but not more slender than the remainder; the last transverse, short, and very obtuse, much shorter than in the *C. sericeus*, and reddish-yellow. The thorax is large, black, shining, clothed with a silky pubescence, almost square, a little broader than long, of the breadth of the elytra, somewhat narrowed in front, gently rounded on the sides; the posterior angles pointed, projecting slightly backwards, the posterior margin rounded. The scutellum is large, triangular, transversely strigose. The elytra are dark brown, finely transversely strigose, a little arched, somewhat rounded on the sides, moderately narrowed towards the extremity, not so strongly truncate at the apex as in *C. sericeus*, and more rounded, with a fine brownish pubescence. The under side is black; the legs are brown, the tarsi paler.

The pale terminal joint of the antennæ, combined with the general appearance of *C. sericeus*, at once indicates this species. It is also a deeper insect than *sericeus*, and the sides more nearly approach the perpendicular.

Described by Rosenhauer from three specimens found at

Stettin. It has since been found in other parts of Germany, and no doubt is scattered all over the continent. I have not found it in Scotland, but it has been taken by Mr. Guyon near Richmond, and by Dr. Power near London.

Chaudoir's *C. sericatus* is said by Kraatz to be only a small variety of this species. I have not seen it, but I have no doubt he is correct. Chaudoir's description contains no character sufficient in my view to support the establishment of a new species. His description is as follows:—" *C. sericatus*, hitherto confounded with *C. sericeus*. It is constantly three times smaller, more narrowed behind; the elytra narrower; the wrinkles above less marked; the antennæ less enlarged towards the extremity, the last joints more elongate, the eighth a little narrower, the last less obtuse, and of the colour of the preceding. The breast is less convex; the colour of the elytra is lighter towards the extremity, which is almost ferruginous.

"Found at Kiew in spring, under dry leaves at the foot of trees*."

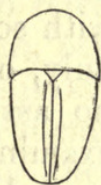
55. *C. colonoides*, Kraatz.

Catops colonoides, Kraatz, Stett. Ent. Zeit. xii. 169. 35.

Oblongo-ovatus, fusco-sericeus; antennis obsolete clavatis, ferrugineis; thorace elytrisque transversim strigosis, *his non truncatis*.

Long. $\frac{7}{8}$ lin.

Fig. 48.



The antennæ are about the length of the head and thorax, imperceptibly thickened towards the point, ferruginous-red; the seventh joint scarcely broader, but at least twice as long as the preceding, always darker-coloured than the remaining joints; the eighth joint somewhat smaller than the sixth; the ninth, tenth, and the acuminate eleventh tolerably equal in size. The head is blackish-brown, finely punctate, with a grey pubescence. The thorax is blackish-brown, somewhat lighter on the extreme posterior margin, extremely densely and finely granulated, about a fourth broader than long, narrowed in front, moderately rounded on the sides; the posterior angles are sharp, projecting backwards. The elytra are dark brownish, towards the apex lighter, finely transversely strigose, covered with a fine silky brown down, gradually narrowed towards the apex. The under side is blackish-brown, the margins of the individual abdominal segments lighter; the legs are ferruginous-brown. Nearly constant in size.

A very distinct species, similar to *C. sericeus*, and, like it,

* Chaudoir in *loc. cit.*

with transversely wrinkled elytra, but smaller than the smallest individuals of that species, and easily distinguished by the wholly different form of the antennæ, by the gradually narrowed and not truncate elytra, and the stronger more distant transverse wrinkling. The club of the antennæ is as a rule somewhat darker, the last joint somewhat larger than the preceding, cone-shaped, acuminate.

Kraatz says that it is taken near Berlin in loose sand at the foot of old oak-trees, and that it is frequent in moors.

[To be continued.]

XXXIV.—*Elucidation of some Plants mentioned in Dr. Francis Hamilton's Account of the Kingdom of Nepál.* By Lieut.-Col. MADDEN, F.R.S.E., President of the Botanical Society of Edinburgh*.

THE possession by the University of Edinburgh of the duplicate herbarium (unfortunately incomplete) and the valuable MS. Catalogue of the Plants collected in Nepál and other parts of India by the late Dr. Francis Hamilton (formerly Buchanan), has recently afforded me the opportunity of comparing them with some which he has introduced into his 'Account of Nepál,' only, or chiefly, by their vernacular designations, which are of no assistance to the English reader. Of the result of this examination I purpose to submit a short statement to the Botanical Society, to the members of which it may prove the more interesting from the fact that, in several cases, the scientific names have not hitherto been given in any, even the latest, works on Indian Botany which have fallen under my notice, although the plants are well known and of general utility in India. Nor will it be considered inconsistent with the object of our meetings, to dedicate a brief space to an inquiry into the botany of a district which engaged the interest and employed the time of this accomplished naturalist†,

* Read to the Botanical Society of Edinburgh, June 12, 1856. The death of the author having occurred since this paper was read before the Botanical Society, it has been printed without the benefit of his corrections.

† The genus *Hamiltonia*, of the order Cinchonaceæ, was devoted by Roxburgh to the memory of this "illustrious peregrinator," as he is called by D. Don. *H. suaveolens* is a shrub of the Rájmáhal and other hills of Behar; and a very beautiful azure-blue variety abounds all along the base of the Himálaya, the *H. azurea* of Wallich, *scabra* of D. Don, *propinqua* of Jacquemont. The flowers are sweetly fragrant till bruised, when they exhale a most foetid odour, from which the plant derives its Kumáon name



Murray, Andrew. 1856. "XXXIII.—Monograph of the genus *Catops*." *The Annals and magazine of natural history; zoology, botany, and geology* 18, 391–404.
<https://doi.org/10.1080/00222935608697655>.

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