

On the dried stems of the larger umbelliferous plants in the plains of Southern Sardinia.

I cannot assert the identity of my specimens with the species of Fries, not having been able to compare their fructification; my plant differs from the *Byssisedæ*, under which name other really distinct species are perhaps confounded. *Sp. aquila* has been found hitherto on rotten branches only, and has therefore been referred to *Byssisedæ*: my specimens might be ranked with *Caulicolæ*.

IV. BERTIA.

Perithecia erumpentia oblonga ovoideave, stromate effuso atro crustæ-formi insidentia, cellulis mediocribus subrotundis contexta, fere suberosa, tenacia, rugoso-verrucosa; in sicco rugoso-tuberculata, rigida, ostiolo inconspicuo vel saltem minutissimo prædita. *Asci* creberrimi octospori, fixi, cito evanidi. *Paraphyses* tenuissimæ. *Sporidia* hyalina, cylindracea, utrinque obtusa, curvula, endosporio ab episporio haud distincto, septo medio bilocularia.

I have named this genus after Dr. Giuseppe Berti of Porto Maurizio, to whom I owe numerous collections of cryptogams from Eastern Liguria.

Bertia moriformis. *Sph. moriformis*, Tode Fung. Mecklenb. ii. p. 22. n. 19. tab. 11. fig. 90. *a, b, c*, tolerably correct but incomplete; Fries, Syst. ii. p. 458; Sclerom. Suec. ed. 2. n. 125.

Found for the first time in Italy by my illustrious friend Baron Vincenzo Cesati. A species common in other parts of Europe, but very variable in its mode of growth and in size; nevertheless the nucleus, the asci and the sporidia always preserve the same characters in solitary individuals as well as in those which are clustered together; a fact, be it observed, which supports the maxim I have tried to establish, and which I hope in the sequel to be able triumphantly to demonstrate.

In the distinction of the genera and species we ought to set the highest value on those characters which are drawn from the form and structure of their sporidia.

XXXI.—Notes on the genus of Insects *Sitona*, with descriptions of two new Species. By JOHN WALTON, Esq., F.L.S.

Fam. CURCULIONIDÆ.

Genus SITONA, Germ., Steph.; SITONES, Schönh.

§ A. Eyes subdepressed.

1. *Sitona hispidula*, Fab., Germ., Steph., Schönh.

— *pallipes*, Steph.

Curc. hispidulus, Marsh., Gyll., Kirb. MSS.

The subimmersed eyes, and the erect rigid hairs scattered on

the body, distinguish this common insect at a glance from every other species.

2. *Sitona suturalis*, Steph.

Curc. rufipes, Marsh., non Linn.

This insect very much resembles the preceding in general habit, but may at once be recognised by having the thorax and elytra entirely without hairs, and from every other species by its subdepressed eyes.

Unknown to Schönherr and Germar until I sent specimens to them.

Local and not often met with ; I once found it plentifully in a damp meadow in Yorkshire. Taken abundantly by Mr. S. Stevens and myself amongst grass in a moist field on the west side of Turner's Wood, Hampstead, in June ; it also occurs in Hackney Marshes.

§ B. *Eyes moderately prominent.*

3. *S. Regensteinensis*, Herbst, Germ., Schönh., Steph. Manual.

— *Spartii*, *femoralis* et *pleuritica*, Steph. Illustr.

Curc. Spartii, Kirb. MSS.

Dr. Germar concurs with Mr. Stephens in referring this insect to *Curc. Regensteinensis* of Herbst*, and M. Schönherr to *Curc. Spartii* of Kirby†, with which it is distinctly synonymous ; *Curc. Ulicis*, referred to Kirby (MSS.), is not to be found in his manuscript. I possess specimens from M. Chevrolat of Paris, named *S. Regensteinensis*.

Excessively variable in size (length $1\frac{1}{2}$ —3 lines), but distinguished from all the other species by having the thorax considerably dilated and rounded at the sides, and remarkably narrowed behind, with the elytra setose.

Found abundantly on the broom and furze in the spring and autumn.

4. *S. sulcifrons*, Thunb., Germ., Schönh., Steph. Man.

Curc. tibialis, Gyll., Steph. Illustr.

— *chloropus*, Marsh. ?

— *subaurata*, Kirb. MSS., Steph.

— *pleuriticus*, Kirb. MSS.

My British specimens were referred by Schönherr and Germar to the first name, and an insect sent by Gyllenhal in the foreign collection of Kirby is identical. Mr. Stephens has in his possession two examples of *Curc. chloropus* from the collection of Marsham, one of which is the true *Curc. tibialis* of Herbst, and the other is *Sitona sulcifrons* of Thunb. ; the latter is accurately

* Ent. Zeit. Stettin, no. 5. p. 99, 1842.

† Schönh. Syn. Ins. vii. p. 455.

described by Stephens under the name of *Sit. tibialis* of Herbst, after Gyllenhal, and he has quoted *Curc. chloropus* in his 'Syst. Catal.' as synonymous; but I think Marsham's description of the sculpture on the thorax agrees better with the former, I have therefore placed a note of interrogation. *Curc. subauratus* and *C. pleuriticus* of Kirby MSS. and collection are identical, and are most decidedly specimens of *Sit. sulcifrons*.

It may be known from all the species of this section by its smaller size and by its proportionably shorter form.

Found abundantly in many localities amongst grass and in hedges in the spring and autumn.

5. *Sitona lineata*, Linn., Mus. Linn., Germ., Steph., Schönh.

Curc. lineatus, Fab., Marsh., Gyll., Kirb. MSS.

— *ruficlavis*, Marsh.

— *griseus*, Marsh., non Fab.

— *griseus* (var. β .), Kirb. MSS.

Recent specimens of this insect may generally be known by having the alternate interstices of the elytra covered with paler scales than the others, and are more or less distinctly lineated; but they are sometimes concolorous and not lineated; individuals of this and many other species (especially those which are clothed with silvery-gray scales) are from age very subject to abrasion, and these occur not unfrequently with the upper surface very thinly or unequally clothed with scales; sometimes the shoulders and scutellum are maculated, or with an abbreviated streak; at other times immaculate and more or less denuded; nevertheless they may be distinguished, without difficulty, by a comparative examination of the form and sculpture, which may be more easily seen than expressed: the females are more robust.

Curc. ruficlavis and *Curc. griseus* of Marsham are varieties, sparingly clothed with silvery-gray scales, with the elytra concolorous or partially denuded.

The most abundant species of the genus, everywhere common, and sometimes found in great numbers amongst peas and beans.

6. *S. puncticollis*, Kirb. MSS., Steph. 1831.

— *octopunctatus*, Germ. in Litt.

— *insulsus*, Schönh. 1834.

Curc. flavescens (var.), Kirb. MSS.

I sent specimens of this insect to Schönherr and Germar as "*Sit. puncticollis* of Kirby, *nigriclavis*, *longiclavis* et *flavescens*, Marsh.;" the former referred them to *Sitones insulsus**; and the latter observed, that "*Sit. puncticollis* of Kirby, *insulsus* of Schönh., is the true *Sit. octopunctatus*, Germ.;" which opinion is further corroborated by a foreign specimen sent by him for my inspec-

* Schönh. Syn. Ins. ii. p. 103. no. 9 (1834).

tion. I find by a recent examination of the typical examples from the Marshamian cabinet, that the three synonyms, *nigriclavis*, *longiclavis* and *flavescens* of Marsham, belong to the next species, and not to the present; and I regret to have led Schönherr and Germar in this instance into an error, which they have published on my authority; it is therefore necessary to state, that according to the manuscript and collection of Kirby, *Curc. flavescens* is unquestionably (as he suspected) a pale immature variety of his *puncticollis*, and referred by him to Marsham's 'Ent. Brit.' no. 212. without doubt; this was my authority. Germar supposed that his *Sit. octopunctatus* was identical with *Curc. caninus* of Gyll. and *flavescens* of Marsh., and therefore he published the former name without characters*. *Sitones insulsus* is described by Gyllenhal as specifically distinct †; and it appears not to have been found hitherto in Sweden, whilst the following is plentiful in that country.

This is a larger and more robust insect than *S. flavescens*, and differs by having the head broader, the front sometimes with an obsolete puncture in the middle, or a faintly impressed line, more or less abbreviated, never extending to the vertex; the vertex commonly has two pale spots and is more convex; the thorax with three distinct pale lines, the lateral ones the broadest, and sometimes flexuous, between which are two whitish spots placed transversely, rarely with two near the base, and two on each side anteriorly; the elytra distinctly longer in proportion to the breadth, obscurely lineated, the sutural and the second interstice on each elytron very frequently with interrupted fuscous or black streaks; the legs longer and more robust, especially the femora.

Generally distributed, but more plentifully in the south of England; it occurs in Yorkshire, but I have never seen a specimen reputed to have been found in Scotland.

7. *Sitona flavescens*, Marsh. 1802; Steph. Illustr.

— *octopunctatus*, Schönh. 1834.

Curc. nigriclavis, Marsh.

— *caninus*, Gyll., Steph.

— *longiclavis*, Marsh. MSS., Steph., Kirb. MSS.

— *griseus*, Kirb. MSS.

— *lineatus*, Fab., Mus. Banks.

British specimens of this insect were forwarded to Schönherr and Germar with the name *Sit. canina* of Stephens; the former referred them to "*Sitones octopunctatus* †," and the latter published the following observations: "*Sitones octopunctatus*, Schönh., may probably be only a variety of *Sitones insulsus*, Schönh., *puncticollis* of Kirby and of Stephens, from which it is only distin-

* Ins. Spec. p. 416. no. 3. † Schönh. Syn. Ins. ii. p. 103. no. 9 (1834).

† Schönh. Syn. Ins. ii. p. 104. no. 10. et vi. p. 269. no. 31.

guished by its smaller size and less distinct colouring, of which however there are many transitions*.” Mr. Stephens has in his cabinet examples of *Curc. flavescens* and *C. nigriclavis* from the Marshamian collection; these I have recently examined and compared with the descriptions, which leave no doubt on my mind as to their authenticity and identity; the former is a pale immature variety, and the latter is black, with the tibiæ and tarsi rufous. According to Germar, *Curc. caninus* of Fab. is a variety of *Curc. lineatus* of Linn.†; and it appears from the Banksian cabinet that Fabricius has mixed this species with *C. lineatus*; consequently the Fabrician name *Curc. caninus*, used by Gyllenhal and Stephens as the oldest, must necessarily be changed, not for *octopunctatus* of Germ. (a new name, and denoting a different insect), but for the next oldest, either for *flavescens* or *nigriclavis* of Marsh. I have preferred *flavescens* because it is the first-described, and I think equally appropriate and more current, being synonymized by Gyll., Germ. and Schönh. without a note of interrogation.

This insect unquestionably approaches extremely close to *Sit. puncticollis*, and I formerly had a doubt whether it was sufficiently distinct‡, but after a lapse of eight years I am now satisfied it is a good species, and may be recognised with facility by that peculiarity of form technically called habit; it is not only of a smaller size than the preceding, but is distinctly shorter in proportion to the breadth and of a different form; it also differs by having the head narrower; the front with a very deep channel extending to the vertex, and nearly to the apex of the rostrum; the eyes are smaller and less prominent; the thorax has the lines and spots indistinct; the elytra are distinctly shorter; and the alternate interstices in recent specimens are more or less distinctly variegated. I possess specimens with the body and legs entirely flavescent or rufous, and others black with the tibiæ and tarsi ferruginous, the effect of immaturity and of age. Mr. Waterhouse always considered this insect specifically distinct, and has received many specimens from Scotland, but not accompanied by one of *Sit. puncticollis*.

Found abundantly throughout Great Britain in fields of grass and clover from May to October.

8. *Sitona humeralis* (Kirb. MSS.), Steph. 1831.

— *Pisi*, Steph.

— *promptus*, Schönh. 1834.

I possess foreign specimens of this insect from Germar and Chevrolat, named *Sitones promptus* of Schönh.

* Ent. Zeit. Stettin, no. 5. p. 99, 1842.

† Ins. Spec. p. 416. no. 4.

‡ Ent. Mag. v. p. 254, 1838.

Common in woods, on the oak, birch and hazel, particularly in the chalky districts of Kent and Surrey, from June to September.

9. *Sitona Meliloti*, Walton.

Elongate, black; clothed more or less densely with coppery and fuscous, or cinereous and silvery-gray scales. Head narrow, very little broader than the rostrum, closely punctulated; the front flat, with a deeply impressed longitudinal line, commencing on the vertex and extending nearly to the apex of the rostrum: eyes rather smaller and a little less prominent than the other species of this section except the last: rostrum rather shorter than the head. Antennæ testaceous, sometimes the funiculus pitchy, with the clava fuscous. Thorax as broad as long; moderately dilated and rounded at the sides; the base rather broader than the apex; convex above, very closely and minutely punctured; more or less densely clothed at the sides with scales; the disc sparingly so, obsoletely trilineated or partially abraded. Elytra elongate; the shoulders subrectangular and rounded; the sides nearly straight; the apex obtusely rounded, rather deeply punctate-striate, more or less thickly clothed with scales; distinctly maculated on the shoulders and scutellum; the interstices indistinctly variegated with fuscous and cinereous scales: specimens sometimes occur very thinly clothed with silvery-gray scales, concolorous or partially denuded. Body densely clothed with scales beneath. Legs black, with the base and apex of the femora, the tibiæ and tarsi testaceous. Length $2-2\frac{1}{3}$ lines.

Found in company with *Sit. lineata* and on the same plant, and has been mistaken for that insect; but *Sit. lineata* has the head much broader, the eyes more prominent, and the sculpture different. It is the most nearly allied to *S. humeralis*, the head, eyes and thorax being very similar, but *S. humeralis* differs in having the front of the head, and the rostrum above, deeply excavated; the thorax with large scattered punctures, and the interstices minutely punctured; the elytra shorter, being long-ovate.

This is, according to Schönherr, a new and undescribed species; and according to Germar, "closely allied to *Sit. geniculatus* of Schönh., but having only a defective specimen of the true *Sit. geniculatus* I cannot decide; the thorax seems a little less rounded."

I found this species in Yorkshire on the melilot trefoil (*Trifolium officinale*) in June; subsequently it has been taken from the same plant in Charlton sand-pits by Mr. S. Stevens and by myself, in June and July.

§ C. *Eyes very prominent.*10. *Sitona tibialis*, Herbst, Germ., Schönh.*Curc. chloropus*, Marsh.*S. lineellus*, Gyll., Schönh.— *ambiguus* (var.), Schönh.*Curc. albescens*, *affinis* et *lineatulus*, Kirb. MSS.

Oblong, black; clothed more or less thickly or unequally with shining silvery, coppery, or green scales, and with very short, suberect, inconspicuous setæ. Head broad, rugulose-punctate; the front with a broad and very deep furrow extending nearly to the apex of the rostrum: eyes large and very prominent: rostrum rather shorter than the head, and a little narrower, similarly punctured. Antennæ entirely testaceous, or frequently with the joints of the funiculus piceous, and the clava fuscous. Thorax subquadrate, moderately dilated and rounded at the sides, convex above, transversely impressed near the apex, which is distinctly elevated, deeply rugose-punctate; commonly more thickly covered on the lateral margins and down the middle with scales, distinctly or obsoletely trilineated. Elytra long-ovate, very convex above, profoundly punctate-sulcate, the interstices narrow and convex, indistinctly rugulose; the suture, the fourth interstice (rarely the second), and the margin on each elytron more or less thickly clothed with pale scales; either distinctly or indistinctly lineated, or often concolorous and scattered, and frequently more or less denuded. Body densely covered with silvery-white scales beneath. Legs, with the femora generally black, sometimes the base and apex testaceous; the tibiæ and tarsi also testaceous, the latter frequently piceous; the legs rarely entirely black. Length $1\frac{1}{3}$ — $2\frac{1}{5}$ lines.

British specimens of this insect were examined by Schönherr and Germar, and referred to *Curc. tibialis* of Herbst; tested by Schüppel. The following are small narrow varieties, viz. *Curc. albescens* of Kirby and *Sit. ambiguus* of Schönh. (of which I have foreign specimens), very thinly clothed with silvery-gray scales of one colour; *Curc. affinis* and *Curc. lineatulus* of Kirby, rather densely clothed with silvery-gray scales; the latter variety with the alternate interstices of the elytra regularly lineated, and the legs black.

Marsham appears to have confounded this insect with *Curc. sulcifrons* under the name of *C. chloropus* (see notes under *S. sulcifrons*), and as from the insufficiency of his characters it appears doubtful to which it should be referred, and as it seems to have escaped the notice of Stephens, I necessarily describe it.

Of *Curc. lineellus* I have carefully examined two foreign specimens from Gyllenhal, four from the collection of Billberg, and

five from Schönherr; these are in my opinion examples or varieties of *Curc. tibialis*. Dr. Germar informs me that "*Curc. lineellus* of Gyll. appears to be recently excluded, and that he believes it to be merely a small variety of *Sit. crinitus*."

Hundreds, with innumerable varieties, may be found almost everywhere on the furze (*Ulex europæus*) in the spring and autumn.

11. *Sitona crinita*, Oliv., Steph., Schönh.

— *lineella* et *albescens* (var.), Steph.

Curc. macularius, Marsh., Kirb. MSS.

This insect greatly resembles the preceding in general habit, is equally variable in magnitude, but less so in the colour of the scales; the elytra are proportionably longer, of a different form, and it is distinctly a less convex insect; most generally thickly clothed with dark or pale cinereous scales; the small varieties approximate very closely to the last, and are extremely liable to be confounded with it; but the longer and very conspicuous setæ with which it is invariably clothed will always distinguish it, independent of other characters.

I have examined a long series with many varieties captured by Mr. R. N. Greville in Scotland; I have found it plentifully in Yorkshire, and in profusion amongst tares on a chalky soil at Mickleham and Birch Wood in June.

12. *S. Waterhousei* (Schönh. in litt.), Walton.

Elongate, sublinear, black, sparingly clothed with cinereous and silvery-gray scales. Head very broad, coarsely punctured; the front with a deep fovea and with a broad and very deep furrow, extending from the fovea to the middle of the rostrum; the vertex elevated and convex: rostrum about as long as the head, and not much narrower: eyes very large, semiglobose, and extremely prominent. Antennæ entirely testaceous. Thorax oblong, subcylindrical, slightly dilated at the sides, flat above; very coarsely and deeply punctured, somewhat rugose; clothed at the sides more or less closely with scales; the disc sometimes glabrous. Elytra elongate, the shoulders nearly rectangular, the angular points rounded, and the callous elevated, the sides straight, the apex obtusely rounded; profoundly punctate-sulcate, the interstices very narrow, convex and rugulose, the second and fourth from the suture distinctly elevated, and clothed more or less with cinereous and silvery-white scales. Legs totally testaceous. Length $2\frac{1}{2}$ lines.

This is a new and distinct species according to Schönherr and Germar.

I have seen only three specimens, one of which I obtained from a dealer at York, who said it was found in the neighbourhood of

that city or near Cambridge. I have another from the collection of the late Mr. Millard, and the third is in the cabinet of Mr. Waterhouse; it appears to be extremely rare or very local.

13. *Sitona cambrica* (Kirb. MSS.), Steph. 1831.

— *cribricollis*, Schönh. 1834.

— *rugulosus* (Dillw.), Kirb. MSS.

This insect is very distinct from every other species of this genus.

I have occasionally found a few specimens in Yorkshire inhabiting moist meadows in June, but never in the south of England. Barnes Common, Hampstead, and Plumstead, in marshy places, June and July, but scarce, Mr. S. Stevens.

14. *S. grisea*, Fab., Mus. Banks., Schönh.

— *gressorius*, Fab., Germ., Schönh.

Curc. fuscus, Marsh.

— *trisulcus*, Kirb. MSS.

This remarkably distinct insect appears to be the true *Curc. griseus* of Fab., according to the two specimens pinned to that name in the Banksian cabinet, and referred to by Schönherr. *Curc. griseus* of Marsh. is very distinctly a variety of *Curc. lineatus* of Linn.

XXXII.—*A Synopsis of the British Rubi.*

By CHARLES C. BABINGTON, M.A., F.L.S., F.G.S. &c. *

[Continued from p. 175.]

9. *R. cordifolius* (W. et N.); caule arcuato anguloso glabriusculo, aculeis validis rectiusculis horizontalibus declinatisve, foliis quinatis coriaceis subtus tomentosis, foliolo terminali ovato vel subrotundo vel cordato-cuspidato, *infinis petiolatis intermediis dissitis, panicula composita hirta.*

R. cordifolius, *Rub. Germ.* 21. t. 5.

R. rhamnifolius, *Rub. Germ.* 22. t. 6; *Eng. Bot. Suppl.* t. 2604; *Bab. Man.* 93.

Stems many feet long, naked or slightly hairy. Leaflets variable in size, soft and green or whitish beneath; in some rare instances nearly or quite glabrous on both sides. Terminal leaflet cordate roundish cuspidate in *R. cordifolius*, ovate or roundish-ovate acute in *R. rhamnifolius* of the 'Rubi Germanici.' Panicle rather long; the lower branches often elongated and spreading, axillary; rachis downy. Petals roundish.

Common. July and August.

Obs. 1. I have willingly followed Mr. Borrer and many other

* Read before the Botanical Society of Edinburgh, Feb. 12, 1846.



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