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XXV.—Notes on the genus of Insects *Trachyphlœus*, with descriptions of new species. By JOHN WALTON, F.L.S.

Fam. CURCULIONIDÆ.

Genus TRACHYPHLÆUS, Germ., Schönh., Steph.

1. *Trachyphlœus scaber*, Linn., Mus. Linn., Germ.
 - *tessellatus*, Marsh., Steph., Schönh.
 - *confinis*, Steph. secund. ejus Mus.
 - Curc. scabriculus*, Payk., Gyll., Schönh., non Linn.
 - *bifoveolatus*, Beck, Germ.
 - Strophosomus nigricans*, Steph., Kirb. MSS. et Mus.
 - Thylacites grisescens*, Kirb. MSS. et Mus.

According to the museum of Linnæus and to his description, this insect is the true *Curc. scaber* of that illustrious naturalist, and it is specifically identical with *Curc. tessellatus* of Marsh.

I regret that I cannot concur with M. Schönherr and Dr. Germar in considering this insect as specifically distinct from *Curc. scabriculus* of Payk. I apprehend that the want of time to detach the scales and the extraneous matter from the upper surface of the thorax by which the sculpture is obscured, and the want of a long series of specimens to exhibit a variation of size and of form in the elytra, have led those distinguished entomologists into an error; otherwise it is impossible to reconcile the discrepancies between themselves and Gyllenhal.

I possess a series of forty-three specimens (thirty of which I have denuded to obtain a distinct view of the sculpture), and have very closely and minutely examined and compared them with four authentic specimens of *Curc. bifoveolatus* of Beck from Germar, but I am unable to discover a uniform distinctive difference, and have no doubt that they are specifically identical. Gyllenhal, Schönherr and Germar have cited *Curc. bifoveolatus* of Beck as synonymous with *Curc. scabriculus* of Payk., therefore the latter

is synonymous with *Tr. scaber*; however, in deference to the great authorities above named, it is necessary to show better reasons for venturing to dissent: according to Schönherr, "*Curc. tessellatus* of Marsh. (from an examination of British specimens) differs from *Curc. scabriculus* by having the thorax *equal*, neither *canaliculated* nor *impressed*; the elytra more *globose* and *deeply punctate-striate**." According to Germar, "*Tr. scaber* of Linn. (*Curc. tessellatus* of Marsh.) has the thorax *obsoletely canaliculated* and *bifoveolated* posteriorly; the elytra *ovato-globose* and *punctate-striate*; it is very like *Tr. bifoveolatus*, and differs almost only by its shorter elytra, the greatest breadth of which is in the *middle*†." "*Tr. scabriculus* has been sent to me by Schönherr himself, and to it *Curc. bifoveolatus* of Beck belongs; it has the thorax with *scarcely any central furrow*, and the elytra *scarcely exhibit striae*, and its greatest breadth is *beyond the middle*‡."

Nevertheless the whole of my denuded specimens, and also the four examples of *Curc. bifoveolatus* sent to me by Germar himself, have the thorax more or less *unequal*, *distinctly bifoveolated* and *furrowed*; the elytra *ovate*, more or less *convex*, *gibbous beyond the middle*, and very *distinctly punctate-striate*; as to the form of the elytra it is subject to variation, and has a tendency, especially in large and in fully matured specimens, to become more *convex*, and varies from *ovate* to *globose-ovate*: this insect agrees in all its essential characters with the excellent description of *Curc. scabriculus* by Gyllenhal; but he very justly observes, that unless the upper surface is denuded, the sculpture is scarcely perceptible.

Of this species it may be useful to notice, that the inequality and the sculpture of the thorax, above and at the sides posteriorly, have a most extraordinary range of variation, and although it is constantly more or less *distinctly canaliculated*, *bifoveolated*, and *closely and minutely granulated* or *rugulose-punctate*, yet in the major part of my specimens, these characters are interspersed with a greater or less number of scattered acute tubercles, or rugged with short ridges or tubercles, whilst in others they are obsolete or entirely absent: it may be distinguished from every other species by having the head *invariably* with a *transverse striga* or *constricted at the base*, and by the *anterior tibiae* being armed in both sexes at their apices, externally and in front, with six minute spines, which hitherto, as far as I know, have not been noticed.

I intend ultimately to deposit in the cabinets of the British

* Syn. Ins. Suppl. vii. p. 114.

† Germ. Stett. Ent. Zeit. 1842, p. 102.

‡ Ibid.

Museum and of the Entomological Society a series of specimens to illustrate the varieties of this insect.

Frequently found, but not plentifully, on Hampstead Heath, Plumstead, Charlton, Birch Wood, &c., generally in sand-pits, sandy banks or gravel-pits in June.

2. *Trachyphlæus Waltoni*, Schönh.

— *ventricosus*, Steph., non Germ.

Ovate, black, densely clothed with griseous and cinereous recumbent scales, and with white erect scales. Head short, depressed, deeply striated and ridged above, beneath, and at the sides, not punctulated; eyes small, round and prominent; rostrum rather narrower and scarcely longer than the head, rugulose, deeply excavated above, with a slender channel in the middle, which extends to the front of the head. Antennæ rufo-ferruginous. Thorax broader in the middle than long, considerably narrowed, but not constricted anteriorly, the anterior margin flat, greatly dilated and rounded at the sides towards the base, convex above, finely carinated, neither furrowed nor foveolated, thickly punctulated, the punctures confluent. Elytra ample, globose-ovate, very convex above, regularly punctate-sulcate, the punctures large and deep, the interstices narrow, convex and coriaceous, densely clothed with cardiform, recumbent griseous scales, variegated with cinereous behind the middle, and with claviform erect white scales; the cardiform scales under a microscope are beautifully and distinctly striated and ridged. Legs rather short, robust, fusco-ferruginous, clothed with griseous and cinereous scales; the anterior tibia at the apex externally and in front unarmed. Length $1\frac{1}{2}$ to $1\frac{3}{4}$ line.

This very distinct species may readily be known by the longitudinal striæ and ridges which surround the head; the deep sulci with large punctures on the elytra; and the want of spines at the apex of the anterior tibia, externally and in front.

I forwarded specimens of this insect to Schönherr and Germar as *Tr. ventricosus* of Germ. ?—the former observed “non *ventricosus* of Germ., *Waltoni* of Schönh.”*—the latter remarked, “*Tr. ventricosus* of Steph. is different from *Tr. ventricosus* of Schönh., and is a distinct species, which Schönherr will describe in his ‘Supplement’ as *Tr. Waltoni*†.”

Rare, occasionally found in a gravel-pit on Plumstead Common, and at Shirley Common by Mr. S. Stevens and by myself in June and July; found under a stone near Bridgenorth, Shropshire, by Mr. Marshall; south of Ireland by Mr. T. V. Wollaston.

* Syn. Ins. Suppl. vii. p. 115.

† Germ. Stettin Ent. Zeit. 1842, p. 102.

3. *Trachyphloeus scabriculus*, Linn., Fab., Mus. Banks., Herbst, Marsh., Steph., Kirb. MSS.

— *setarius* (♀) Schönh.

— *scaber*, Schönh. Syn. Ins. Suppl. vii. p. 117.

— *maculatus* (var. β.), Schönh. in litt. olim.

— *digitalis*, Steph. secund. ejus Mus.

— *occultus*, Chevr. in litt.

According to the description of Linnæus, and to an insect in the Banksian cabinet, named *Curc. scabriculus* of Linn. by Fabricius, it appears that this insect is correctly referred to Linnæus by British authors.

There is considerable difficulty in reconciling the notices of *Tr. scabriculus* and *Tr. scaber* by Schönherr with those of Germar and of himself, and I fear I am in some measure responsible for the discrepancies. In October 1840 I sent to M. Schönherr, among many other insects, three specimens of this as *Tr. scaber*, Mus. Linn., and as *Tr. scabriculus*, Mus. Banks., and the same of Marsh. and of Steph.: I was led into this error by there being three insects in the Linnæan cabinet, so placed as to induce a belief that they were all alike, whereas I subsequently discovered that only one had attached to it the name of '*scaber*,' and that it differed from the others which were really *Tr. scabriculus*; this I greatly regret, as it appears to have induced M. Schönherr on my authority to refer this insect incorrectly to *Tr. scaber* of Linn., by which much confusion in the synonymy has been created. I sent specimens to Germar as *Tr. scabriculus* of Fab., Mus. Banks., Marsh., Kirb. and Steph.: he remarked, "Your specimens seem to me to be the true *Curc. scabriculus* of Linn., and were new to my collection."

Recent and immature varieties not unfrequently occur of smaller size, with the body rufous or ferruginous; the elytra variegated with cinereous and fuscous scales and densely clothed with erect white scales; these varieties, without a long series of specimens and a very close comparative examination, are very liable to be considered as distinct species: of this variety I sent specimens to Schönherr as a new species which he named *Tr. maculatus*, but he subsequently referred it to this insect as a variety*. I likewise sent similar specimens as *Tr. maculatus* of Schönh. to Germar, who observed, "I believe it to be *Tr. setarius* of Schönh. and *scabriculus* of Herbst†;" he also sent me a foreign specimen which clearly belongs to this variety, as do specimens forwarded to me by Chevrolat as *Tr. occultus*.

Tr. scabriculus is chiefly distinguished by having the thorax greatly dilated and rounded at the sides, and having in front a

* Syn. Ins. vii. p. 117.

† *Ib.* ii. p. 492.

small fascicle of scales which has the appearance of a small spine, the anterior margin strongly elevated, deeply constricted in front, with a deep dorsal furrow, and with a small impressed furrow on each side near the posterior angles; the elytra ovate-spherical, distinctly punctate-striate, sometimes maculated or variegated posteriorly with white and fuscous scales, and the erect scales more or less abraded; the anterior tibia of the male has at the apex externally a strong tooth, and another in front which is bifid at its extremity; the female has similar appendages, but they are very minute.

Certainly the most abundant insect of the genus, and found in similar situations and in the same localities as *Tr. scaber*.

4. *Trachyphloeus squamulatus*, Oliv. (1789), Schönh.

— *aristatus*, Gyll. (1827), Schönh.

— *stipulatus*, Germ.

— *hispidulus*, Steph. Illustr.

Curc. setosus, Kirb. MSS.

British specimens of this insect, which I presented to Schönherr and Germar, were identified by them as *Tr. aristatus* of Gyll. I possess an insect under that name from Germar which agrees with my series of specimens. I have adopted the oldest name for this insect on the authority of Chevrolat, who sent to me on two several occasions examples of *Tr. squamulatus* of Oliv., which is very distinctly a small immature variety of *Tr. aristatus* of Gyll.; yet Gyllenhal has described the former (from a specimen also sent by Chevrolat) as specifically different from the latter, but I am persuaded the want of varieties of this rare and variable insect has led him into an error. It is necessary to make a few observations having reference to the differences between the two descriptions of *Tr. aristatus** and *Tr. squamulatus*† by Gyllenhal. The major part of my specimens have the head, rostrum and thorax black, with the elytra ferruginous or piceous, but immature specimens occur entirely rufous or rufo-ferruginous; all have the antenna inserted near the apex of the lateral furrow on the rostrum near to the mouth; yet when the scape is placed at right angles with the rostrum, the antenna seems to be inserted in the middle, but the scape is curved just at the base in front, and must be extended forward to see the true point of insertion; the small and proportionably narrow specimens have the thorax comparatively less expanded at the sides, and all my British and foreign specimens have the thorax constantly and distinctly rugulose-punctate, not obsoletely alutaceous; the greater part have either the dorsal furrow or the fovea distinct or indistinct, in others they are very obsolete.

* Gyll. Ins. Suec. iv. p. 613.

† Schönh. Syn. Ins. ii. p. 492.

Readily distinguished from every other species except *Tr. Waltoni* by having the anterior tibiæ in both sexes unarmed at their apices externally and in front.

I may refer to the cabinet of Mr. S. Stevens for a good series of specimens of this insect with several interesting varieties.

Rather rare, occasionally found on sandy banks on Windmill Hill, Gravesend; also near Birch Wood, and Bishop's Wood, Hampstead, in June.

5. *Trachyphlœus alternans*, Schönh. Syn. Ins. ii. p. 493.

Ovate, black, densely clothed with recumbent cinereous-ochraceous scales (generally incrustated with earth), and very sparingly with short, suberect scales. Head short, broad, thickly and minutely rugose-punctate; eyes small, semiglobose; rostrum almost as broad, and rather longer than the head, concave above, rugulose-punctate, and finely canaliculated in the middle. Antennæ obscure testaceous. Thorax short, transverse, narrowed and transversely impressed in front, the anterior margin elevated, greatly dilated and rounded at the sides, a little convex above, closely and minutely rugose-punctate, interspersed with scattered small tubercles and not furrowed. Elytra ample, ovate, convex above, distinctly punctate-striate, the alternate interstices slightly raised, minutely granulated, and clothed with a series of short, very remote, suberect scales. Legs stout, obscure testaceous, the anterior tibia in both sexes armed with a short spine near the apex externally, and acutely bidenticulated in front. Length $1\frac{1}{3}$ line.

This insect is closely related to *Tr. spinimanus*, but is sufficiently distinct, and may be discriminated from that species by having the elytra deeply and distinctly punctate-striate, the alternate interstices, elevated and clothed with suberect scales, and by the spinous appendages at the apex of the tibia being much smaller.

According to Schönherr, *Tr. alternans* is synonymous with *Tr. scaber* (*scabriculus* of Linn.*), but I possess specimens of *Tr. alternans* from Chevrolat and Germar which are beyond all doubt different from *scabriculus* of Linn., and a distinct insect.

Found rather plentifully in the sand-pits near Charlton Church in June and July; Brighton, Arundel, and in other chalky districts, Mr. S. Stevens.

6. *T. spinimanus*, Germ., Steph. secund. ejus descr.

The forms of the thorax and elytra of this insect differ from *Tr. alternans*, but are easier seen than expressed; it may however be distinguished by having the elytra very faintly punctate-striate,

* Syn. Ins. vii. p. 117.

all the interstices flat and broad, and all very sparingly clothed with short, suberect whitish scales, and by the anterior tibia being armed with a long spine near the apex without, and with two diverging spines in front.

According to Schönherr, *Tr. spinimanus* (which is described by Gyllenhal apparently from a native insect*) is synonymous with *Tr. scaber* (*scabriculus* of Linn.†), but my foreign specimens of *Tr. spinimanus* from Germar himself are very different from *scabriculus* of Linn., and very distinct.

Although I have taken many specimens of *Tr. alternans* in different localities, yet I never met with a specimen of *Tr. spinimanus*; it appears to be very rare; specimens in the cabinet of Mr. Waterhouse were found I think near Cromer, Norfolk, and I am indebted to him for a specimen; I have seen specimens in the cabinet of Mr. Stephens.

XXVI.—*Comparison of the Periods of Flowering of certain Plants in the early Spring of 1846, in the Botanic Garden of Belfast and the Jardin des Plantes at Paris.* By WILLIAM THOMPSON, Esq. (Belfast).

To the Editors of the Annals of Natural History.

GENTLEMEN,

Although fully sensible that the following very brief communication on a highly interesting subject is almost too trivial for publication in the 'Annals,' I send it forward under the impression that possibly it may be considered worth the little space that it will occupy.

Belfast, Feb. 27, 1847.

WM. THOMPSON.

A PAPER by M. Ch. Martins appeared in the number of 'Annales des Sciences Naturelles' for April last, on the subject of the extraordinary temperature of the winter of 1846, and its influence on the flowering of plants. Lists of the species which flowered in the Botanic Garden of Paris at certain periods of that season being given, they suggested to me the desirability of drawing up similar lists respecting the Botanic Garden at Belfast. These compared with the others exhibit some interesting results, although the number of species noted down in the latter locality falls far short of what could be wished. The information respecting them was derived from Mr. D. Ferguson, the able curator of the Garden—who also supplied the few notes respecting Glasgow.

[It was not until after this communication was read before the

* Gyll. Ins. Suec. iv. p. 614.

† Syn. Ins. vii. p. 117.



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