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Random Studies in North American Coleoptera.

BY GEO. H. HORN, M. D.

The following notes have been prepared with the view of making known to others some facts in synonymy which have become known to me in various ways, and incidentally to describe a few new species belonging to groups which have been too recently monographed to require an entirely new study.

PTEROSTICHUS Bon.

P. amethystinus Dej.

In the male of this species the posterior femora are thickened near the tip with a very obtuse angulation beneath. The trochanter is about half as long as the femur. The femur of the female is not dilated, and the trochanter much shorter. The scutellar stria is never long, and in some specimens nearly wanting.

P. castaneus Dej.

This species has the femur similarly dilated, but a little more angulate beneath. The trochanter is scarcely half the length of the femur. In the majority of specimens there is no scutellar stria, and in a few a mere trace of it.

P. brunneus Dej.; *scutellaris* Lec.

In this the posterior femur scarcely differs from the normal form. The trochanter is not half the length of the femur. The scutellar stria is moderately long.

In a letter to me written after the publication of LeConte's review of *Pterostichus*, Baron Chaudoir insists that *brunneus* is not a synonym of *castaneus*, but has a subelongate scutellar stria, and is consequently the same as *scutellaris* Lec.

In the same letter Chaudoir asserts that his *P. diligendus* is exactly *P. mancus* Lec. The following synonymy must be adopted:

P. mancus Lec., *diligendus* Chd.

P. apalachius Lec. mss., *diligendus* † Lec.

The name suggested is that at first given by Dr. LeConte in his cabinet.

P. mutus Say.

Recently Mr. J. F. Hausen, of Montreal, has described two species at the expense of *mutus*, which he has called *pulvinatus* (*Naturaliste Canad.* v, p. 20, 1891) and *stenops* (*Canad. Record of Science* iv, p. 252). These are simply individual variations.

TRECHUS Clairv.

T. barbaræ n. sp.—Rufo-testaceous, elytra piceo-testaceous, moderately shining. Antennæ ferruginous, paler at base. Head finely alutaceous, impunctate, frontal depressions broad, but very vague. Thorax a little wider than long, base shorter than the length, sides arcuate in front, sinuate posteriorly, hind angles not prominent, base slightly oblique each side, lateral margin very narrow and not wider at base, disc feebly convex, smooth, a fine median line. Elytra regularly oblong oval, humeri obtusely rounded, disc smooth, with the usual dorsal punctures, but without traces of striæ. Body beneath smooth and shining. Length .18—.20 inch.; 4.5—5 mm.

This species has well developed eyes, and differs from all our species in the form of the thorax and its very narrow margin, the very shallow frontal grooves, and the entire absence of traces of striæ on the elytra.

I have seen three specimens of this species obtained by Mr. Chas. Fuchs from Santa Barbara, Cal., which agree, except as to size; two were males, one female.

PLATYNUS Bon.

P. myrmecodes n. sp.—Slender, elongate, pale rufo-testaceous, feebly shining. Head smooth; antennæ slender, longer than half the body, third joint a little longer than the fourth; thorax oval, narrowed behind, much longer than wide, hind angles rectangular, but not prominent, lateral margin very narrowly reflexed, median impressed line alone distinct; elytra elongate oval, nearly twice as long as wide, humeri very obliquely rounded, disc very feebly convex, lateral margin narrowly reflexed, sinuate near the apex, apices slightly separated, acute, but not prolonged, surface faintly striate and finely alutaceous, striæ obsoletely punctate; body beneath smooth and shining; legs long and slender; front tarsi grooved on upper side, middle and hind tarsi grooved on the outer side from the first to fourth joint. Length .37 inch.: 9.5 mm.

A slender species of ant-like form allied to *dissectus*, but differing from that species in its thorax being longer than wide, and by the more narrowly reflexed margins of both thorax and elytra. It resembles *jejunus* also, but is still more slender, and differs in having the front tarsi grooved on the upper side.

One specimen, Arizona, precise region unknown.

P. arizonensis n. sp.—Form of *maculicollis*, black, head and thorax feebly shining, elytra opaque, sometimes with a slight violet tinge. Antennæ entirely piceous; head smooth; thorax broader than long, not narrowed at base, sides regularly arcuate, hind angles broadly rounded, disc subopaque, feebly convex, at sides very slightly depressed, the margin scarcely reflexed, basal impressions shallow and small, median line alone distinctly impressed; elytra oval, the margin very feebly sinuate near the apex, humeri rounded, body winged, disc moderately deeply striate, striæ obsoletely punctate at bottom, intervals very flat, the third interval with four dorsal punctures along its middle; body beneath smooth, shining; legs piceous-black, tarsi paler. Length .38 inch.; 9.5 mm.

This form belongs with our series of black *Platynus* without metallic lustre already sufficiently numerous and difficult to separate. This one differs from all the others in its opaque surface. The sides of the thorax are scarcely at all depressed, and the basal depressions feeble. It must, however, form a group intermediate between the *melanarius* and *affinis* series and that typified by *maculicollis* by the presence of four dorsal punctures placed in the middle of the third interval. Rarely the last puncture is placed on the second stria. In *maculicollis* there are usually six dorsal punctures, the anterior three on the third stria and the posterior three on the second.

Specimens of this species rarely occur with but three dorsal punctures.

Occurs at Camp Grant, Arizona.

P. languidus n. sp.—Piceous, antennæ and legs rufo-testaceous. Head piceous, darker than the thorax, smooth; thorax paler at the sides, one-third

wider than long, sides arcuate and slightly narrowing behind, the hind angles rounded, disc feebly convex, at sides narrowly depressed, more broadly near the hind angles, basal depressions vague, smooth, the median line finely impressed; elytra oval, one-third longer than wide, finely but sparsely striate, striæ not punctured, intervals flat, smooth, dorsal punctures three, the anterior on the third stria, the other two on the second; body beneath rufo-piceous, smooth. Length .24—.26 inch.; 6—6.5 mm.

This species belongs near *propinquus*, and in fact considerably resembles that species, but the form is rather broader, the hind angles rounded and the elytral striæ absolutely without trace of punctures. The side margin of the thorax is not at all reflexed.

Occurs in southern Arizona (Morrison).

On page 375 of the "Catalogus" *P. planipennis* Motsch. Kaef. Russl. p. 68, appears as a synonym of *parumpunctatus*, which in turn should be superseded by *Muelleri* Hbst.

The description by Motschulsky is very brief, as follows:

Agonothorax planipennis, Gleich dem *A. famelicus*, ist aber etwas kleiner und platter. Die Deckschilde sind minder stark gestreift und mit mehr metallischen Glanze.

The *famelicus* mentioned is a synonym of *fossiger* Dej., and the Motschulsky description will very accurately fit some of the varieties of that species.

Having, through the kindness of Dr. Hamilton, obtained some specimens of *Muelleri*, of Swedish origin, their resemblance to *errans* was found to be very great, and their appearance very unlike *fossiger*.

As compared with *errans*, *Muelleri* has the fovea of the hind angles of the thorax less deep and smooth, while in *errans* it is punctate. The antennæ of *errans* are brownish, the basal joint pale, while in *Muelleri* the antennæ are entirely piceous. As a rule the legs of *errans* are pale, in *Muelleri* more or less piceous, but this is subject to variation in both forms. It is, consequently, hardly necessary to say that *Muelleri* cannot be accepted in our lists merely on the authority of the "Catalogus."

At this time it is well to call the attention of those using the "Synopsis of N. A. Platyni" by Dr. LeConte (Bull. Brookl. Ent. Soc. ii, pp. 45-58) to a slip of the pen rather difficult to detect, except by one having a large series of species. On page 48, near the middle of the page at the inner edge, the numbers 9, 12, 13, follow each other from above downwards. Numbers 12 and 13 should be 13 and 14, and, as a result, in following out the tabulation, the species will be correctly identified.

It is well also to give a word of caution in the interpretation of the meaning of the position of the dorsal punctures. A single specimen should not have too much confidence bestowed upon it, as there is apt to be very annoying variation in the position of the punctures, especially of the second. It would seem that a careful reduction of the number of species would be more nearly true to nature and render the separation of them far less difficult. These remarks apply more particularly to the black species of the *Agonum* group related to *corvus*, *melanarius*, etc.

PERIGONA Lap.

The recent capture of numerous specimens of one of the species of this genus by Mr. Ulke, near Washington, enables me to assert that two valid species exist as originally stated by LeConte. These may be separated as follows:

Head alone piceous; elytra slightly oblong..... **nigriceps**.
 Head and thorax piceous; elytra oval and more convex..... **pallipennis**.

P. nigriceps Dej. (*Tachys*); *Trechicus umbripennis* Lec.

One of the Dejean types is now in my collection. Its general aspect is that of some depressed *Tachys* as *corruscus*.

Some discussion has been held comparatively recently in which M. Fauvel has taken an important part regarding this insect. From the comparisons made by him *nigriceps* is widely distributed; specimens have been compared from such widely distributed regions as United States, Madagascar and Japan. In fact a specimen of *P. japonica* now before me does not appreciably differ from those taken by Mr. Ulke.

P. pallipennis Lec. (*Trechicus*).

The head and thorax are piceous-black and shining, the elytra piceo-testaceous variable in intensity. The elytra are more oval than the preceding species and more convex. The form is that of a diminutive *Trechus ovipennis*.

Occurs in Pennsylvania, Iowa, District of Columbia and North Carolina. Evidently more widely distributed than *nigriceps*, but rather rare.

PINODYTES Horn.

In the "Classification of the Coleoptera of North America," I would suggest a change in the characters used to separate the Lyrosomini and Pinodytini as follows:

Ventral segments nearly equal in length; antennæ slender, a little broader at tip, seventh and eighth joints not dissimilar in thickness; head with well developed eyes; met-episterna visible their entire length...**Lyrosomini.**

Ventral segments unequal, the first along the middle line as long as the next three, fourth very short; antennæ thickened at tip, the eighth joint smaller than the seventh or ninth; head without eyes; met-episterna concealed in front.....**Pinodytini.**

At the time of my "Synopsis of the Silphidæ" I attributed six ventral segments to *Pinodytes*, whereas there are but five, the error having arisen from considering an extruded genital portion as a small terminal segment.

P. Hamiltoni n. sp.—Oblong, moderately elongate, not very convex, castaneous, moderately shining. Head sparsely punctate. Thorax quadrate, scarcely a fourth wider than long, slightly narrowed in front, sides slightly arcuate, hind angles rectangular, disc finely, equally, but not closely punctate. Elytra very slightly wider at base than the base of the thorax, sides feebly arcuate, gradually narrowed at apical third, surface with fine shallow striæ, which are finely and closely punctate, the striæ at the sides and apex less distinct, intervals flat, sparsely punctate. Length .16—.18 inch.; 4—4.5 mm.

In the male the last ventral segment is truncate, the penultimate with a moderately deep transverse depression on each side. The female has the last ventral oval at tip and the penultimate without depressions.

Notwithstanding the great difference in size between this and the other species of the genus no valid generic distinction has been observed.

For this species I am indebted to Dr. John Hamilton, who collected them in the vicinity of Allegheny City in this State, and kindly gave them to me several years ago.

P. pusio n. sp.

This name is suggested for a species still smaller than *cryptophagoides*, which it resembles in color and form, except being a little more elongate. The elytral sculpture consists of fine punctures in striæ as in that species, but more impressed. The principal structural difference is in the antennæ, in which the seventh and eighth joints are not very dissimilar in size and the three joints forming the club somewhat longer than in *cryptophagoides*. Length .06 inch.; 1.5 mm.

Alameda County, Cal., collected by Mr. Chas. Fuchs.

The species now known to me may be separated in the following manner:

Third joint of antennæ obviously longer than the second, eighth smaller than seventh; elytra very distinctly punctato-striate, the intervals sparsely punctate; 4—4.5 mm.....**Hamiltoni**.

Third joint of antennæ not longer than second.

Seventh joint of antennæ very distinctly larger than the eighth; elytra indistinctly punctate in striæ; 2 mm.....**cryptophagoides**.

Seventh joint scarcely larger than the eighth; elytra with very distinct striæ of punctures; 1.5 mm.....**pusio**.

DENDROPHILUS Leach.

D. californicus n. sp.—Slightly oblong oval, piceous-black, shining. Head dull, finely indistinctly punctate. Thorax punctate, punctures neither coarse nor close, but finer along the apex at middle. Elytra dull at apex, surface moderately closely punctate, but less distinctly near the outer to the inner; within the inner striae are two short striae composed of punctures only. Epipleuræ and underside of body more or less opaque, sides of metasternum closely punctate, the middle less so; abdomen alutaceous, moderately closely punctate. Pygidium dull, closely and finely, but indistinctly punctate. Length .12 inch.; 3 mm.

This species is closely related to *punctulatus* of the eastern region, but is of more oblong form, the elytra with the two inner striae of punctures, the pygidium less evidently punctate, and the surface of the elytra more opaque at apical third.

The species of *Dendrophilus* are few in number, and have a close resemblance. This one has been described as an indication of further generic distribution. The measurement is from the apex of the thorax to apex of elytral suture.

Occurs in Santa Clara County, Cal.

AULACOSCELIS Chev.

The specimens of this genus had become misplaced at the time the preceding notes on Chrysomelidæ were prepared.

There is hardly a genus of the entire family which is more apt to confuse the student at first sight. With a facies which would suggest its position among the Galerucini, it possesses characters in the structure of the mouth parts approximating it to the Sagrini. In all the species the thorax has a moderately deep transverse groove near the base limited by a longitudinal plica as in some Halticini and Endomychidæ.

One species is known to me in our fauna.

A. purpurea n. sp.—Oblong, parallel; beneath, legs and antennæ piceous, above bluish- or purplish-black, subopaque, head and thorax often reddish-yellow. Head sparsely punctate at the sides. Thorax about a third wider than long, apex slightly narrower than the base, sides arcuate in front, then oblique

to base, disc sparsely indistinctly punctate; scutellum smooth. Elytra a little wider at base than the thorax, sides nearly parallel, arcuately narrowed at apical third, disc with obtuse costæ, arranged as follows: the outer and more distinct starts at the umbone and continues parallel with the side margin sometimes reaching the apex, a second parallel with the suture from the middle of the base does not reach the apex; between these two a shorter oblique costa beginning at the umbone, the entire surface closely punctate, but less densely at the base. Body beneath smooth, abdomen sparsely finely punctate and finely cinereo-pubescent at the sides. Length .27 inch.; 7 mm.

This species varies in a manner similar to *variabilis* and *Candezei*, and may be either entirely black, or with the head and thorax red, some of the latter having a blackish head.

The males have the last ventral segment emarginate and with a slight depression, on each side of which is a slight pubescence. The costæ are rather less distinct in the males.

This species seems closely related to the two above mentioned, but in both the elytra are scarcely punctate, and in *variabilis* the head and thorax are densely punctate.

Occurs in New Mexico and Arizona.

Mr. Jacoby (Biol. Cent.-Am. vi, pt. 1, suppl. p. 3, pl. xxxv, fig. 6) credits another species, *A. Hoegeri*, to our fauna from Vancouver Island, but as all his other localities are from Jalapa and other points in southern Mexico, I think it can be disregarded until further evidence of its existence so far north is observed. It is nearly of the form of *purpurea*, with less transverse thorax, color reddish yellow, with the antennæ, knees, tibiæ and tarsi black. Elytra sparsely indistinctly punctate, with the lateral costa alone distinct.

NOTOXUS Geoff.

N. Schwarzii n. sp.—Piceous, feebly shining, thorax pale brown, antennæ and legs testaceous. Head densely punctate, sparsely pubescent. Thorax moderately closely punctate, sparsely clothed with silken white pubescence and a few erect hairs, the thoracic horn nearly twice as long as wide, narrowly margined and not serrate, the crest acutely margined and not serrate. Elytra rather finely and closely punctate, clothed with silken-white pubescence and a few semi-erect hairs, each elytron with an oblique brownish band behind the middle, these separated at the suture. Body beneath densely punctured, finely pubescent. Length .10 inch.; 2.5 mm.

In the male the anterior tibiæ have an angulation at the middle of the inner side, not amounting to a tooth. The last ventral segment is not foveate. The apices of the elytra obtusely rounded.

This species resembles *bicolor* in facies, but is smaller and with a non-serrate horn. The color of the elytra, with the oblique fascia, will readily distinguish it from any in our fauna.

Taken by Mr. E. A. Schwarz on the borders of Great Salt Lake in company with *Mecynotarsus candidus* and *Tanarthrus salicola*.

MYODITES Latr.

Of this genus hardly sufficient material has accumulated to speak authoritatively on the limits of variation in the species. Certain points have been observed which it seems advisable to indicate for the use of those more fortunate in the acquisition of specimens.

From my observation they seem to divide as follows:

Front joint of hind tarsus not much longer than the next two and scarcely twice as long as broad.

Thorax quite smooth; abdomen of male black, female yellow.....**Popenoi**.

Thorax closely punctate; abdomen black in both sexes.....**luteipennis**.

First joint of hind tarsus slender, more than twice as long as the next two and more than twice as long as broad.

Elytra entirely yellow and comparatively smooth.

Abdomen yellow ♀, black ♂**scaber**, *semiflavus*.

Abdomen black, ♂ and ♀**nevadicus**, *californicus*.

Elytra partly, or almost entirely piceous, more or less scabrous.

fasciatus, *flavicornis*.

americanus, *stylopides*.

Walshii, *Zeschii*.

Schwarzii.

The male of *scaber* has a black abdomen, the antennæ and legs pale yellow.

The preceding table is given as a tentative study and not with absolute certainty as to the synonymy, but with the hope that, as additional material may become known to me or others, something nearer accuracy may be attained.

It is, however, quite probable that the seven names included under *fasciatus* are mere variations of one form. It is equally certain that one character on which LeConte placed some reliance must be abandoned. The form of the vertex differs in the sexes, that of the male being acutely prominent, while the females of the same are obtuse or nearly flat.

Dr. LeConte seems to have been in doubt about *americanus* and *flavicornis*. Of the former I think there can be no doubt, while the yellow male antennæ are sometimes observed in the forms grouped under *fasciatus*, which agree very well with Say's description.

For the genus *Myodites*, Mr. Champion has adopted the name *Rhipidophorus*, and for that known by us as *Rhipiphorus*, the name *Emenadia*.