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ON THE WEST INDIAN GYRINIDÆ AND A NEW SPECIES OF *GYRETES* FROM NORTHERN BRAZIL

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Through the kindness of The American Museum of Natural History I received for determination several hundred specimens of Gyrinidæ, among which were large series of several West Indian species. These, together with material representing some of the Cuban species received from Mr. Stephen C. Bruner, Chief of the Department of Entomology and Plant Pathology at Santiago de las Vegas, Cuba, have brought before me a majority of the species which have heretofore been recorded from the Antilles.

In the material from the American Museum there are three specimens, collected by Dr. Wm. M. Mann at Nassau, Bahamas, which do not agree with any of the heretofore described forms, and for these I propose the name *Dineutus*¹ *carolinus mutchleri*. There are also specimens from Porto Rico² which agree in many respects with the West Indian *D. longimanus*, but the differences seem sufficient to warrant separation as a subspecies and I propose the name *portoricensis* for this form.

The family Gyrinidæ is represented in the Antilles by the same genera as are found on the mainland of North America, namely, *Gyrinus*, *Dineutus*, and *Gyretes*. The species are also closely allied to those on the mainland but in no case are they identical. For example, the Bahaman specimens of *Dineutus carolinus* differ from the typical form and perhaps it would be better to consider them to be a distinct species rather than a subspecies.

The affinity of the Antillean species to those of the South American fauna is much less evident. The genus *Dineutus* does not occur in that continent.³

¹Mac Levy, 1825, 'Ann. Jav., No. I,' p. 30, named his new genus *Dineutus*. This name was emended to read *Dineutes* by later authors. I believe that we should go back to the original spelling (*Dineutus*) of the generic name, although some authors may dispute the correctness of its termination.

²The Porto Rican specimens in The American Museum of Natural History were collected in the course of the survey of that island conducted under the auspices of the New York Academy of Sciences.

³*Dineutus truncatus* Sharp, the most southern range of this genus in America, is recorded from Panama. In South America *Dineutus* is replaced by the genus *Enhydrus* and a group of species placed in the genus *Macrogyrus*. This group of *Macrogyrus* is widely separated geographically from other species of the genus and, furthermore, they exhibit morphological characters which, in my opinion, require them to be placed in some other genus.

KEYS TO THE WEST INDIAN GYRINIDÆ

- 1.—Last ventral segment of abdomen depressed, rounded at tip (no pubescence on the sides of elytra) 2.
 Last ventral segment of abdomen elongated, conical (elytra pubescent on sides; scutellum wanting) *Gyretes*.
- 2.—Size small; scutellum distinct *Gyrinus*.
 Size medium; scutellum wanting *Dineutus*.

Gyrinus

- 1.—Body beneath rufo-ferruginous; longitudinal striæ on elytra strongly impressed on sides but not canaliculate; lateral margin smooth. *cubensis* Régimbart.
 Body beneath black; anus and epipleura sometimes rufous; more convex and less elongate in size; longitudinal striæ on elytra canaliculate on sides; lateral margin transversally striate *rugifer* Régimbart.

Dineutus

- 1.—Elytra vittate, strongly serrate at tip, bitruncate, sutural angle and medium angle of truncature strongly produced *longimanus* Olivier.
 Elytra not vittate, apices finely serrulate; of smaller size 2.
- 2.—Sutural angles of elytra scarcely rounded *carolinus* Le Conte subsp. *mutchleri*,
 new subspecies.
 Sutural angles of elytra produced *metallicus* Aubé.

Gyretes

- 1.—Prothorax and elytra without a yellow margin 2.
 Prothorax and elytra with a narrow yellow margin 3.
- 2.—Labrum black, anterior margin rufous *morio* Aubé.
 Labrum totally ferruginous; smaller in size than the preceding and with the elytra more broadly pubescent *distinguendus* Régimbart.
- 3.—Labrum black; pubescence reaching the suture at tip of elytra; sutural angles of the latter strongly produced and dehiscent in both sexes.
cubensis Régimbart.
 Labrum ferruginous; pubescence not reaching the suture at tip of elytra; on the latter, in the female, there are two short ridges with a groove between them.
vulneratus Aubé.

***Gyrinus cubensis* Régimbart**

Gyrinus cubensis RÉGIMBART, 1883, Ann. Soc. Ent. France, (6) III, p. 151.

Length, 4.5–4.75 mm. Oval; somewhat elongate and attenuated posteriorly; moderately convex. Surface black, highly polished; sides broadly bronzed; body beneath rufo-ferruginous, darker medially. Strial punctures on the elytra much finer near the suture than near the margins; eleventh stria rather close to the latter. Truncature of the elytra small; exterior angle broadly rounded, sutural angle scarcely so.

This species, which is closely related to *G. elevatus* LeConte of Florida, was described by Régimbart from Cuba (types in the Museum of Brussels). A single female collected by Mr. S. C. Bruner at Santa Barbara, Isle of Pines, March, 15, 1923, is before me.

Gyrinus rugifer Régimbart

Gyrinus rugifer RÉGIMBART 1883, Ann. Soc. Ent. France, (6) III, p. 179; 1907, idem, LXXXVI, p. 180.

Length, 4–5.5 mm. More regularly oval and strongly convex than *cubensis*. Black with bluish and metallic reflections; not evidently bronzed at the sides, the tenth interval mostly metallic shining. Body beneath metallic black; anal segment and epiplura not or feebly rufescent, legs rufous. Surface in the male polished and not visibly alutaceous; in the female finely alutaceous on the disk of elytra, the latter with the two intervals near the suture, and on the tenth interval which is near the margin polished from base to apex; the margin transversally strigate. Strial punctures rather coarse, especially towards the sides where the rows are canaliculate (especially so in the female sex); eleventh stria strictly marginal throughout. The punctures sometimes of a beautiful golden tint. Exterior angle at tip of elytra less broadly rounded.

Male Genitalia.—Rufo-testaceous, darker basally; median lobe apically about half as wide as the lateral lobes, rounded at tip, somewhat narrowed in about apical third.

This species is closely allied to *G. parvus* Say, but the less convex and somewhat more elongated shape, together with the strongly transversely strigate lateral margin, serves to separate it.

Described by Régimbart from Guadeloupe and later recorded by him from Dominica. The American Museum of Natural History's material contains specimens from Dominica (Male Lake, Laudet, June 13, 1911, Coll. by F. E. Lutz) and Porto Rico (Aibonito, July 14, 1914, Coll. by F. E. Watson; San Juan, San Turce district, July 5, 1915, Coll. by F. E. Lutz and A. J. Mutchler in a pool along side of swamp). The Aibonito specimens bear *Laboulbeniaceæ*.

Dineutus carolinus Le Conte **mutchleri**, new subspecies

Length, 8.5–9 mm. Rather narrowly oval; moderately convex. Surface black, sometimes bronzed, not very shining; punctures and striæ very faint. Lateral margins of elytra not sinuate in the male, feebly sinuate in the female; impressions scarcely noticeable; the flattening of the margins extending nearly or quite to the suture; sutural angles feebly rounded, apices finely serrulate. Under surface black, shining, somewhat bronzed. Middle and posterior tibiæ and tarsi dark testaceous, femora brown; anterior tibiæ cylindrical at basal third, then rather suddenly broadened on inner margin in the male, on outer margin in the female, and continued nearly parallel to apex; apex truncate, exterior apical angle acute in the male rather obtuse in the female; femora in the male with a distinct rather sharp tooth; six punctures of the upper surface of femora of the male, seven on that of the female.

Holotype male, No. 28070, allotype female, No. 28071, and one male paratype, No. 28072, from Bahamas (Nassau, May and June, 1907), collected by Dr. William M. Mann. In the collection of The American Museum of Natural History.

These seem sufficiently different from *D. carolinus* LeConte to be considered at least a subspecies, which I take pleasure in dedicating to Mr. Andrew J. Mutchler in grateful recognition of many favors.

The Bahaman specimens may be separated from the typical form by their somewhat smaller size and the following characters: anterior legs darker in *mutchleri*; setigerous femoral punctures in *mutchleri* six in the male, seven in the female, in *carolinus* seven in the male, eight in the female; femoral tooth of the male rather sharp in *mutchleri*, weak in *carolinus*; in the female of *mutchleri* the anterior tibiæ are somewhat narrowed shortly before the apex, parallel in *carolinus*; sinuation at exterior apical angle of elytra in the female of *mutchleri* very feeble, punctures and striæ much more faint than in *carolinus*, impressions only scarcely noticeable. The œdagus in the male of *mutchleri* is as long as the lateral lobes and gradually narrowed to apex, very slender to the tip. In *carolinus* it is somewhat of another type, as illustrated by the outline drawing in Mr. Chris. H. Roberts' excellent paper on the *Dineutes* of America North of Mexico (1895, Trans. Amer. Ent. Soc., XXII, pp. 279-288, Pls. v and vi).

***Dineutus metallicus* Aubé**

Dineutus metallicus AUBÉ, 1838, 'Spec. Gen. des Coleop.,' VI, p. 781. RÉGIM-BART, 1882, Ann. Soc. Ent. France, (6) III, p. 418.

Length, 8.5-10.5 mm. Rather narrowly oval, somewhat attenuated to both ends, moderately convex. Surface metallic shining, opaque to the sides, very rarely black; striæ and punctures faint. Male with the lateral margins of elytra not sinuate, apices serrulate and feebly sinuate, slightly produced and dehiscent at suture, depressions moderate; female with the lateral margins of elytra and apices strongly sinuate, the latter serrulate. Sutural angles dehiscent and rather produced, depressions very evident in both sexes. Body beneath black, last abdominal segments laterally and pygidium apically rufo-marginate; legs rufous; anterior tibiæ cylindrical at basal third, broadened to apex on inner margin in the male, on outer in the female and somewhat narrowed shortly before the tip in the latter; apex truncate, exterior apical angle sharp; femora with an evident tooth in the male; the setigerous punctures seem to vary in number in both sexes.

Male Genitalia.—œdagus slender, about half as wide and nearly as long as the lateral lobes, acuminate to the tip.

Easily distinguished from the North American mainland species by its small size, its somewhat rhomboidal shape and, in the metallic specimens, by the opaque silky lustre of the elytra laterally.

Aubé gives "Antilles" as the habitat without more specific locality. I have before me from the collection of The American Museum of Natural History specimens from Jamaica (Mandeville, Manchester, November 17,

1919, Coll. by F. E. Watson in a cistern back of hotel; Hope Gardens, February 22, 1911, and Montego Bay, March 15, 1911, Coll. by J. A. Grossbeck) and Porto Rico (San Juan, July 5, 1915, Coll. by F. E. Lutz and A. J. Mutchler in stagnant pools at foot of hills outside of town. Quebradillas, March 1, 1915, and Coamo Springs, June 17-19, 1914, December 27, 1914, and January 7, 1915, Coll. by H. E. Crampton).

Specimens are also known to me from Cuba (Barrete, November 9, 1920; Isle of Pines, New Gerona, July, 1923; Coll. by S. C. Bruner), St. Thomas, St. John, and Guadeloupe.

***Dineutus longimanus* (Olivier)**

Gyrinus longimanus OLIVIER, 1792, 'Entom.,' III, No. 41, p. 11, Pl. I, fig. 3.

Gyrinus excisus FORSBERG, 1821, Nova Acta Soc., Upsala, VII, p. 301.

Dineutes longimanus AUBÉ, 1838. 'Icon. et Hist. Nat. des Coleop. d'Europe,' V, p. 408, Pl. XLVI, fig. 5; 'Spec. gen. des Coleop,' VI, p. 782. RÉGIMBART, 1882, Ann. Soc. Ent. France, (6) II, p. 413, Pl. XI, fig. 35.

Length, 10.5-12.5 mm. Elongate oval, conspicuously narrowed in front and behind; somewhat rhomboidal, moderately convex. Entirely bronzed above, very rarely black, a submarginal opaque vitta extends longitudinally along the prothorax and nearly to apex of the elytra. Elytra with evident punctures, striæ faint; laterally depressed to apex; apex serrate and bitruncate, medium and sutural angles strongly produced. Anterior tibiæ strongly sinuate, apex oblique, exterior apical angle obtuse. Body beneath testaceous. Femora of male without a tooth, setigerous punctures seem to vary in number in both sexes.

Specimens have been seen from Cuba (Santiago de Cuba, a large series in the collection of the Amer. Mus. of Nat. Hist. Guantanamo, received from Le Moul. Taco Taco, April, 1-6, 1922, and Santa Barbara, Isle of Pines, March 15, 1923; Coll. by S. C. Bruner) and Jamaica (Saint Catharina, Ruersdale; Coll. by C. B. Taylor; in Coll. British Museum).

Régimbart records this very distinct and readily recognized species from Haiti. Ahlwarth, 1910, 'Coleop. Catalogus,' says it occurs in Costa Rica but I think that the latter citation is erroneous. There is also a specimen of *D. vittatus* Aubé in my collection, labelled "Cuba," but I believe that this is not the correct locality as *vittatus* is a mainland species and to the best of my knowledge does not extend into Cuba.

***Dineutus longimanus* (Olivier) *portoricensis*, new subspecies**

The large series of *D. longimanus* in the American Museum material exhibits a very noteworthy difference between the Cuban specimens and those collected in Porto Rico. The Cuban specimens are of moderate size (10.5-12.5 mm.); the males are, as usual, somewhat larger than the females. In the Porto Rican specimens, which are generally longer, the males are considerably larger in size than the females and several examples reach 16 mm. in length. The anterior legs are mostly brownish in

the Cuban specimens, evidently rufous in the Porto Rican specimens. The upper surface in the latter metallic shining. The Cuban specimens have a somewhat silky lustre, especially on elytra laterally. There is a remarkable difference in the male genitalia, the œdagus being parallel nearly to apex and only acuminate a short distance before the tip in Cuban males and long and slender, gradually narrowed to tip from basal third in Porto Rican specimens.

The latter distinctive characters give me reason to consider the Porto Rican specimens as representing a distinct subspecies.

Type male No. 28073 from Aibonito, Porto Rico, June 3, 1915, Coll. Amer. Mus. Nat. Hist. Other specimens in the Amer. Mus. Coll. from Porto Rico are as follows: Coamo Springs, July 19, 1914, in more or less deep pools of water standing in a creek bottom of rock formation, Coll. by H. G. Barber; June 4, 1915, Kilom. 14 and Kilom. 17, on Barros road, in stream of somewhat swift-running water, Coll. by F. E. Lutz and A. J. Mutchler; Aibonito, June 3, 1915, in brook on hills south of town, Coll. by F. E. Lutz and A. J. Mutchler; July 17, 1914, in a swift small stream of clear water about one or two miles east of town, Coll. by H. G. Barber; Adjuntas, six kilometers up road toward Jayuya, January 6, 1915, in two pools of water, Coll. by H. E. Crampton; June 9, 1915, in somewhat swift-running stream at Kilom. 46.2 on Utuado road and in a mountain stream at Kilom. 25.8 on same road, Coll. by F. E. Lutz and A. J. Mutchler; Mayaguez, June 22, 1915, in river at Consumo, Coll. by F. E. Lutz and A. J. Mutchler.

The fact that in one male example, from Adjuntas, the œdagus is anomalously formed in nearly the same manner as in the typical form gives reason to believe that the new subspecies is not yet definitely established and is only at the beginning of its evolution. It is, moreover, my conclusion that this is also shown by the nearly entire lack of positive distinctive characters unless it be by the above-mentioned rather insignificant differences in habitus.

Gyretes morio Aubé

Gyretes morio AUBÉ, 1838, 'Spec. Coleop.,' VI, p. 756. RÉGIMBART, 1883, Ann. Soc. Ent. France, (6) III, p. 403, Pl. xi, fig. 118.

Length, 5.75–6 mm. Oval, very convex, the female somewhat elongate. Surface black, highly polished; body beneath ferruginous. Labrum black, anteriorly rufous; pubescence on prothorax and elytra rather narrow, broadened to apex, reaching the suture at tip of the elytra; truncature somewhat sinuate in the male, nearly rectangular in the female. Tibiæ of male rather narrow, exterior apical angle somewhat produced; tarsi feebly broadened.

Recorded from Guadeloupe.

Gyretes distinguendus Régimbart

Gyretes distinguendus RÉGIMBART, 1907, Ann. Soc. Ent. France, LXXVI, p. 186.

Length, 5–5.5 mm. Similar to the preceding, somewhat smaller in size; labrum entirely ferruginous. Pubescence on the elytra broader than in *morio*, basally as

wide as on the prothorax, reaching the suture a short distance before the tip. Anterior legs as in *morio*. Females of nearly the same form as the male, separable only by their smaller anterior tarsi.

Described by Régimbart from a series in the British Museum from Grenada, collected by Mr. H. H. Smith, in March and August, in shaded and cool waters in forests on the eastern coast.

Gyretes cubensis Régimbart

Gyretes cubensis RÉGIMBART, 1883, Ann. Soc. Ent. France, (6) III, p. 392, Pl. XI, fig. 104.

Length, 4.5–5 mm. Oval, somewhat elongate, narrowly attenuated posteriorly and compressed, prominently convex. Surface black, highly polished. Prothorax and elytra narrowly rufo-marginate. Labrum black. Body beneath ferruginous. Prothorax laterally rather broadly punctured and pubescent; pubescence of elytra basally much narrower, distinctly broadened to apex, reaching the suture shortly before the tip. Sutural angles of elytra strongly produced and dehiscent, exterior apical angle sharp. Anterior tibiæ broader in the male than in the female, apex truncate, exterior apical angle slightly produced; tarsi in the male rather broadened, attenuated to apex.

Described by Régimbart from a single female collected in Cuba, in the collection of Wehncke. The Senckenberg Museum at Frankfurt has another example of this apparently very rare species, which is, however, in a very bad shape.

I am indebted to Mr. S. C. Bruner, of Santiago de las Vegas, for a small series of *G. cubensis* from Cuba (Camaguey, August 25, 1923, Coll. by J. Acuna). One of these specimens has been deposited in The American Museum of Natural History. The material contains some male specimens. These, to my knowledge, are the first of this sex which have been available for study. The two sexes are similar in shape and size and can only be separated by characters found in the anterior legs.

Gyretes vulneratus Aubé

Gyretes vulneratus AUBÉ, 1838, 'Spec. Coleop.,' VI, p. 572. RÉGIMBART, 1883, Ann. Soc. Ent. France, (6) III, p. 391, Pl. XI, fig. 103.

Length, 5.5–6 mm. Less elongate and less convex than the preceding. Surface polished in the male, alutaceous in the female. Labrum ferruginous, pubescence of the elytra much narrower posteriorly, reaching only one half of the width on each elytron. Sutural angle not produced in the male and only slightly in the female, truncature very oblique in the latter. The females are also more attenuated and compressed posteriorly and have on the disk of elytra two short ridges with a small groove between them.

Recorded from Santo Domingo by Aubé and from Haiti by Régimbart. These two records may refer to the different divisions of the island.

The interesting material received from The American Museum of Natural History also contains a series of a very remarkable, still undescribed, species of *Gyretes* from Northern Brazil as follows.

***Gyretes villosomarginatus*, new species**

Length, 5.5–6 mm. Elongate oval, posteriorly attenuated, moderately convex; surface castaneous, head and prothorax evidently bronzed; prothorax and elytra narrowly margined with yellow; body beneath rufous, epipleura yellowish. Labrum black, rather produced and anteriorly rounded, strongly punctate and ciliated. Head and clypeus strongly alutaceous. Prothorax slightly alutaceous on the disk, laterally rather broadly punctured and pubescent. Elytra evidently alutaceous, especially towards the apex, punctured and pubescent on the sides, pubescence basally as wide as on the prothorax, regularly broadened to apex, reaching the suture slightly before the tip; truncature nearly rectangular; angles obtuse, not produced. Anterior tibiæ broader in the male than in the female, apex oblique, exterior apical angle rounded; tarsi in the male very broad, attenuated to apex.

Described from a series of thirty-three specimens in the collection of the Amer. Mus. of Nat. Hist.

Holotype male No. 28074, allotype female No. 28075, and paratype No. 28076, Coll. Amer. Mus. Nat. Hist. Paratypes have been deposited in the collection of the author.

This species belongs to the third group of the genus according to the arrangement of Dr. Régimbart (1907, Ann. Soc. Ent. France, LXXVI, p. 182) and should take its place between *G. gradualis* and such of the other species which are margined with yellow (*glabratus-tumidus*). It is easily recognized by its elongate shape and the alutaceous sculpture in both sexes, as well as by the lateral pubescence which is rather wide and more evident than in the allied species.

The above species was collected by Prof. Henry E. Crampton between Ireng River, British Guiana, and Mr. Roraima (August 9, 1911). There were also two other species of Gyrinidæ collected by Prof. Crampton in the same general vicinity as the above: *Gyrinus gibbus* Aubé (August 13, 1911) and *Gyretes tumidus* Régimbart (August 15, 1911).