PSYCHE

VOL. XLV JUNE—SEPTEMBER, 1938 Nos. 2-3

ADDITIONAL REMARKS ON WEST INDIAN GYRINIDÆ

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In 1924 (American Museum Novitates, No. 125) I published a paper on West Indian Gyrinidæ and at that time believed that our knowledge of the family in that area was pretty complete. Recently, however, through the kindness of Dr. P. J. Darlington, Jr., I have studied a large collection of these beetles from the Antilles and Bahamas in the Museum of Comparative Zoölogy at Harvard College, Cambridge, Mass., and to my great surprise have found four new forms (two species, one variety and one form) from Cuba and Haiti. Moreover, several new records can be added for different species on the different islands.

I take this opportunity of offering my sincere thanks to Dr. Darlington for his kindness in enabling me to work on this interesting material.

Gyrinus rugifer Rég.

Hitherto known from Guadeloupe, Dominica, Puerto Rico and Haiti. Dr. Darlington has found the species in Cuba and Jamaica and added further records from Haiti.

Haiti: La Selle Range, La Visite and vicinity, 5000-7000 feet, Sept. 16-23, 1934; Mt. La Hotte, N. E. foothills, 2000-4000 feet, Oct. 10-24, 1934; Mt. Trou d'Eau, Nov. 19, 1934.

Jamaica: Blue Mts., Whitfield Hall, near 4500 feet, Aug. 13-20, 1934; Cinchona ca. 5000 feet, Aug. 16, 1934; Ocho Rios, Aug. 20-24, 1934; Moneague, Aug. 26, 1934.

Cuba: Santa Clara Prov., Matagua, 2000 feet, Oct. 14, 1927 (Wilson); Cienfuegos, Soledad, June, 1929; Trinidad Mts., Buenos Aires, 2500-3500 feet, May 8-14, 1936; Trinidad Mts., San Blas and vicinity, 1000-3000 feet, May 9, 1936.

Comparison with specimens from Guadeloupe, where the types came from, shows no essential differences in the series from the different localities. Generally male specimens are much smaller in size than the females, but in the series from La Hotte there are single females not surpassing the size of the males, and exceptionally (series from La Visite) males attain the maximum size of females. The punctuation of the elytra mentioned by Regimbart is generally visible only at the tip of the elytra (even under high power); the reticulate area on the elytra of the female varies in extent. The 11th interval (between the 10th and 11th series of punctures) is always smooth, as are also the basal and the apical portions of elytra to a greater or less extent; towards the suture the reticulation usually reaches the third series of punctures, and sometimes passes it.

Dineutus (*Cyclinus*) **americanus** L.

In the Cambridge collection are good series from:

CUBA: Soledad, Feb. 22, 1925 (Geo. Salt); Cienfuegos, Soledad, Oct. 27-28, 1926, Nov. 2, 1926, June, 1929, Aug. 2-12, 1934 (Darlington); Trinidad Mts., Hanabanillo Falls, Apr. 30, 1936, and Buenos Aires, 2500-3500 ft., May 8-14, 1936 (Darlington); Rangel Mts., P. de R. Prov., about 1500 ft., Aug. 24, 1936 (id.); eastern Oriente Prov., upper Ovando River, 1000-2000 ft., July 17-20, 1936 (id.); Oriente Prov., Maisi, July 17, 1936 (id.).

JAMAICA: Mandeville (Thomas Barbour); Blue Mts., near 4500 ft., Aug. 13-20, 1934 (Darlington); Ocho Rios, Aug. 20-24, 1934 (id.).

HAITI: Grande Anse (P. R. Uhler); Jérémie (Dr. Weinland); La Hotte, N. E. foothills, 2000-4000 ft., Oct. 10-24, 1934 (Darlington); S. W. Peninsula, Etang Lachaux, under 1000 ft., Oct. 26-27, 1934 (id.).

BAHAMAS: Andros Isl., Apr., 1905, 1 ♀, somewhat doubtful, perhaps not correctly labelled?

From earlier determination work the following records

are to be added: Cuba: Prov. Pinar del Rio, Sierra del Rosario, Rio Las Pozas near la Mulatta (Bierig don., in coll. Ochs). Jamaica: Rio Gohre Canal, 1895 (Carnegie Museum); Castleton Gardens, 500 ft., Jan. 4, 1913 (W. Harris coll., U. S. Nat. Mus.). Puerto Rico: Desengano, Apr., 1924 (Cornell Univ. Coll.); Aguadilla, Jan., 1899 (Aug. Busck coll., U. S. Nat. Museum). Haiti: Suzanne, 1925 (Hofmann coll., U. S. Nat. Museum).

I cannot find essential differences in the specimens of the different series. The species seems to be constant over its range from Guadeloupe to Cuba and Jamaica.

Dineutus (*Cyclinus*) **carolinus** Lec. subsp. **mutchleri** Ochs.

Hitherto recorded only from Nassau (Bahamas). The Cambridge collection contains the following series: New. Providence Is. (-Nassau) July, 1904 (Barber); Andros Is., Apr., 1905; and a single female from Cat. I., Arthurs Town, July 5, 1935 (W. J. Clench).

Dineutus (*s. str.*) **longimanus** Oliv.

In the Cambridge collection from:

HAITI: Furcy (W. M. Mann); Mt. Basil, to 4700 ft., Sept. 9, 1934 (Darlington); Trou Caiman, Sept. 15-20, 1934 (id.); Mt. La Hotte, N. E. foothills, 2000-4000 ft., Oct. 10-24, 1934 (id.); Mt. La Hotte, Desbarrière, near 4000 ft., Oct. 12-14, 1934 (id.); Miragoane, Oct. 30-Nov. 2, 1934 (id.).

Dineutus longimanus, subsp. **cubensis** Ochs 1926

CUBA: Upper Yara Valley, taken on a shallow river, Oct. 18-28 (L. C. Scaramuzza); Cienfuegos, Soledad, June, 1929 (Darlington); Trinidad Mts., June, 1929 (id.); Trinidad Mts., Hanabanillo Falls, April 30, 1936 (id.); Trinidad Mts., Buenos Aires, 2500-3500 ft., May 8-14, 1936 (id.); Rangel Mts., P. de R. Prov., about 1500 ft., Aug. 24, 1936 (id.); Pico Turquino, S. side, 1500 ft., June 25, 1936 (id.); Oriente Prov., Cobre Range, Loma del Gato, about 3000 ft., July 3-7, 1936 (id.); eastern Oriente Prov., upper Ovando River, 1000-2000 ft., July 17-20, 1936 (id.); eastern Oriente Prov., Mts. N. of Imias, 3000-4000 ft., July 25-28, 1936 (id.). In my collection through the kindness of Mr. Bierig, Habana, from the

Province of Pinar del Rio: Sitio de Inferno and San Vicente, in mountain streams; Sierra del Rosario, Rio las Pozas near la Mulatta.

Dineutus longimanus subsp. **jamaicensis** subsp. nov.

Good series in the Cambridge collection show that specimens from Jamaica are somewhat different from those of Haiti, Puerto Rico and Cuba. They are characterized by rufous anterior legs, testaceous undersurface, upper surface with silky lustre, anterior tibiae of the male with double incurvation.

Type ♂ and numerous paratypes in the Cambridge collection (Type No. 23,058) from Jamaica, Blue Mts., near 4500 ft., Aug. 13-20, 1934 (Darlington), further specimens from Ocho Rios, Aug. 20-24, 1934 (id.); Kingston, Feb. 14, 1928 (id.); Mandeville (A. E. Wight); Castleton, Botanical Garden (Petrunkevitch).

In the males of the Jamaican series the oedeagus is subparallel, about ⅔ as wide as the lateral lobes in their basal part, apical fifth finely acuminate; sometimes (immature or shrivelled), narrower and slightly attenuated in the middle of the length. In the Haitian specimens the oedeagus is slightly attenuated from the base in basal third, thence subparallel, slender, about ⅓ as wide as the lateral lobes, apical fourth acuminate. In the Cuban and Puerto Rican specimens the male genitalia are still somewhat different, as described by me (1924, **l.c.**); in several individuals, however, we meet with abnormal features approaching those of the other races. Also the other racial characters are not constant in every case, but generally the different subspecies are to be distinguished as follows:

	anterior legs	under surface	upper surface	incurvation of anterior tibiae ♂
Haiti	dark rufous	testaceous	metallic	simple
Puerto Rico	rufous	testaceous	metallic	simple
Jamaica	rufous	testaceous	silky	double
Cuba	brownish	infuscated	silky	double

Hatch (1930, Publ. Univ. Oklahoma Biol. Surv. 2, pp. 18-21) placed this species in the subgenus Cyclinus. I should,

however, prefer to put it with Dineutus s. str., as the large size and the highly developed anterior legs of the males show more affinity with the representatives of the latter subgenus. Hatch, among many other erroneous suppositions, in his publications on the Gyrinidæ, adds in the same paper the statement that spinous elytral apexes are a character entirely lacking in Dineutus *s. str.* He overlooks the fact that in several species from the Madagascar and the Ethiopian region we meet with such a condition, so the spinose elytral apex does not exclude *D. longimanus* from the subgenus Dineutus *s. str.* Moreover, in *D. truncatus* Sharp from Central America, we can recognize the truncature of *D. longimanus* in a moderate form. A profemoral tooth, the presence of which is denied by Hatch for the species, is weakly intimated in large males of *D. longimanus.*

Gyretes vulneratus Aubé

Of this species, which hitherto was represented only by a few specimens in old collections (i.a. Mus. Berlin, Bremen, Senckenberg; types in coll. Dejean), the Cambridge Museum possesses a considerable series, all from Haiti. The specimens in a series from Furcy (W. M. Mann) agree rather well with the ancient ones seen by me, which are perhaps from the same region as Aubé's types. All females are very strongly reticulate on the disc of pronotum and elytra, and on the sides of the latter there are two abbreviate ridges with a short longitudinal depression between them.

Gyretes vulneratus, forma ♀ **laevicollis** forma nov.

In several series taken in Haiti by Mr. Darlington, most of the females have the disc of pronotum and elytra smooth (reticulation very fine) as in the males, and on the sides of elytra there is no noticeable ridge or depression; only the tips of elytra show a strong reticulation.

Type and several paratypes (type no. M. C. Z. 23,059) from Mt. La Hotte, N. E. foothills, 2000-4000 ft., Oct. 10-24, 1934; further specimens from Mt. La Hotte, Desbarrières, near 4000 ft., Oct. 12-14, 1934 and Tardieu, 3000 ft., Oct. 14, 1934; Camp Perrin, near 1000 ft., Oct. 8-27, 1934; Ennery, near 1000 ft., Sept. 6-11, 1934.

In the last mentioned series there are, besides smooth females, also reticulate female specimens approaching the typical female form with ridges and lateral depression on the elytra. In all these series the size is on the average a little less than in the specimens from Furcy, a yellowish longitudinal spot is more evident on the pygidium, and in the males the anterior tibiae and tarsi are less strongly developed.

The male genitalia in *G. vulneratus* are of a very singular form: the oedeagus is very short and broad, the apical part bent upwards, bottonlike, and joined to the base by a keeled longitudinal ridge.

Chevrolat (1863, Ann. Soc. Ent. France (4) 3, p. 203) mentions *G. vulneratus* from Cuba; perhaps he confused it with the following species.

Gyretes darlingtoni sp. nov.

Length 5-5.5 mm. Oval, hardly elongate, posteriorly attenuate, very convex. Surface shining, black, slightly brassy; lateral margin brownish, very narrow on prothorax and at base of elytra, much wider and more yellowish towards apex of latter; pygidium yellowish, with two short black longitudinal stripes at the base; body beneath rufous, anal segment and epipleurae yellowish. Labrum rufous or yellowish, transverse, anteriorly rounded and brightly ciliated, surface slightly reticulated, posteriorly at the sides deeply punctured and bristly. Clypeus well defined, with dispersed punctures, a narrow anterior margin smooth, posteriorly strongly reticulate, with short transverse meshes. Reticulation less strongly impressed on the head anteriorly and becoming still more superficial towards the vertex, nearly invisible on the prothorax and very fine and most transverse on the elytra; in the ♀ there is a longitudinal area of strongly impressed nearly round meshes on the last ⅔ of each elytron, on which longitudinal striae are sometimes indistinctly marked. Tomentous border of the prothorax reaching opposite middle of eye anteriorly, obliquely narrowed and hardly half as wide posteriorly; still narrower on the base of elytra, regularly and moderately broadened from the humeral part for about ⅔ of the length of elytra, thence more strongly bent inwards and reaching the trunca-

ture obliquely at about its inner third; in the ♀ tomentous border of elytra regularly broadened to about ¾ of the length of elytra, the last part of the border therefore a little narrower than in the ♂, reaching the truncature less obliquely and slightly convexly curved. Truncature of elytra moderately oblique in the ♂, more oblique and slightly concave in the ♀, exterior angle a little projecting, briefly denticulate, sutural angle broadly rounded, more produced in the ♀. Anterior tibiæ of the ♂ dilated towards the apex, exterior apical angle rounded; anterior tarsi moderately dilated, narrower than the tibiæ, slightly attenuate towards the apex. In the ♀ the anterior tibiæ are less dilated, the tarsi narrower, subparallel. Ædeagus pale yellow, long and slender, about as wide as the lateral lobes, subparallel basally, attenuate in about apical third, apex finely acuminate.

Habitat: Cuba, eastern Oriente, Mts. N. of Imias, 3000-4000 ft., July 25-28, 1936 (Darlington).

Type ♂ and Allotype ♀ (Type no. M. C. Z. 23,060) in the Museum of Comparative Zoölogy at Harvard College, Cambridge, Mass.); paratypes 9 ♂♂, 8 ♀♀. Further specimens, 1 ♂ 1 ♀, from eastern Oriente, upper Ovando river, 1000-2000 ft., July 17-20, 1936 (Darlington) agree with the typical specimens.

A small series however (4 ♂♂, 1 ♀) from the Cobre Range, Oriente Prov., about 3000 ft., July 3-7, 1936 (Darlington) differ by the pygidium being nearly totally black, only the tip yellow (=a. *pygidialis* nov., type no. M. C. Z. 23,061). Also these specimens are a little larger in size, and in the ♀ longitudinal striae are more distinctly marked on the reticulate portion of the elytra.

The new species differs from *Gyretes cubensis* Rég., the only species of Gyretes hitherto known from Cuba, by its larger size, broader, less elongate and less vaulted body, yellowish labrum and tip of pygidium, brighter coloured undersurface, sutural angle of elytra and apical exterior angle of anterior tibiae rounded.

Somewhat resembles *G. vulneratus* Aubé from Haiti, but a little smaller in size and differing by the somewhat narrower tomentous border of elytra, the yellow tip of pygidium, rounded exterior apical angle of anterior tibiae, the latter less broadened in the ♂, with narrower anterior tarsi. The

♀ of the new species is easily distinguished from the typical female form of *G. vulneratus* by the lack of strong reticulation on the disc of pronotum and the anterior part of elytra, longitudinal striae are less distinctly marked on the latter and the lateral impression is wanting. The smooth female form of *G. vulneratus* differs from the ♀ of the new species by the lack of any strong reticulation on the elytra except at the tip, darker pygidium, and broader tomentous border of the elytra. Male genitalia are quite different in the two species.

Gyretes nigrilabris sp. nov.

Length 6.25 mm. Broadly oval, posteriorly attenuated, moderately convex. Surface shining, black, slightly brassy; lateral margin brownish and very narrow on the prothorax and at base of elytra, moderately enlarged and more yellowish toward apex of latter; pygidium black; body beneath ferruginous, epipleura yellowish. Labrum black, transverse, anterior margin flatly rounded and with yellow cilia, surface reticulated, base at the sides with some deep punctures bearing bristles. Clypeus well separated, anterior margin dark rufous, reticulated, with dispersed punctures. Reticulation on labrum and clypeus only slightly impressed, with short transverse meshes; strongly impressed on the head anteriorly, meshes becoming rounded and less impressed towards vertex and on disc of prothorax; head and prothorax with dispersed punctures; elytra not punctured, reticulation fine and very transverse in the ♂, much more strongly impressed in the ♀, with short meshes. Tomentous border of prothorax reaching opposite middle of eye anteriorly, diminishing to about ⅔ of the anterior width towards the base and continued on the elytra, on the latter slightly and regularly enlarged (a little more in the ♀) towards the apex, shortly before the latter the inner outline, which is flatly concave, is curved convexly, thus reaching the truncature nearly perpendicularly. Truncature of elytra oblique and concave in both sexes, outer angle sharp, sutural angle dehiscent, obtusely rounded, more produced in the ♀. Anterior tibiae of the ♂ dilated towards apex, exterior apical angle nearly rectangular, briefly rounded; anterior tarsi moderately dilated, narrower than the tibiae, strongly attenuated

towards apex. In the ♀ the anterior tibiae are less dilated, the front tarsi narrow, subparallel. Ædeagus dark yellow, lateral lobes infuscated apically, median lobe a little broader than the lateral ones, subparallel, slightly enlarged at the beginning of the short triangular acumination of the apex, tip obtusely rounded.

Habitat: Haiti, Furcy (W. M. Mann).

Type ♂ and Allotype ♀ (type No. 23,062) in the Museum of Comparative Zoölogy at Harvard College, Cambridge, (Mass.).

A little larger than *G. vulneratus* Aubé, with which it was associated and which it resembles very much. Easily distinguished, however, by the black labrum, darker undersurface, and body more attenuated posteriorly. Anterior tibiae in the ♂ less triangularly dilated, exterior apical angle less pronounced, front tarsi narrower and more attenuated, genitalia quite different. In the ♀ the prothorax is not strongly reticulate, elytra without lateral depression.