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ON THE COLEOPTEROUS INSECTS OF GALAPAGOS ISLANDS.

BY

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ON THE COLEOPTEROUS INSECTS OF GALAPAGOS ISLANDS.

By MARTIN L. LINELL,[1]
Aid, Division of Insects.

The general physical features of the Galapagos archipelago have been amply described by Darwin, Salvin, Hooker, and more recently by Alexander Agassiz,[2] and need not be repeated here. The extreme poverty of the insect life of these islands is especially alluded to by Mr. Agassiz and particularly illustrated by Dr. Samuel H. Scudder in his account of the Galapagos Orthoptera.[3] The whole number of species of this order is 20, including 5 cosmopolitan species. The coleopterous fauna appears to be relatively equally poor, although, as must be expected from any locality, more numerous in species than the Orthoptera. Charles Darwin, while on the famous *Beagle* expedition, collected 29 species, of which Rev. F. W. Hope[4] described one as new. The remainder were reported upon by George R. Waterhouse,[5] who described 22 new species and 3 new genera. Of the remaining 6 species 2 were cosmopolitan and 4 were left as doubtfully identical with species previously known from the American continent. In 1852 the Swedish frigate *Eugenie* touched the islands, and from the Coleoptera obtained there Boheman in 1858 described 6 as new. From that time until 1889 no further mention was made of the Coleoptera of these islands. In that year Dr. L. O. Howard, in his Annotated Catalogue of the Insects Collected in 1887–88 by U. S. Fish Commission Steamer *Albatross*,[6] lists 12 species determined by the writer, but the presumably new ones are not described. The *Albatross* again visited the islands in 1891, and 3 species were obtained. Later in the same year Dr. G. Baur, of Clark University, on a special trip to the islands, collected 21 species, which he presented to the U. S. National Museum, as the U. S. Fish Commission had done with the two lots previously mentioned. Although some

[1] Mr. Linell died May 3, 1897.—Editor.
[2] Bull. Mus. Comp. Zool., 1892, XXIII, p. 56.
[3] Idem, 1893, XXV, p. 1.
[4] Trans. Ent. Soc., London, 1837, p. 130.
[5] Ann. Nat. Hist., 1845, XVI, p. 19.
[6] Proc. U. S. Nat. Mus., XII, No. 771.

of the forms of the different collectings are identical, there are now represented in the Museum a total of 28 species. By careful examination of this material 8 forms prove to be identical with species collected by Darwin, but none of Boheman's species have been recognized. Of the remaining 20 species 5 are found to have an extended distribution in tropical America, 1 is cosmopolitan, and 14 are described as new in the following pages.

In view of the extreme interest attaching to the biology of these islands, it has been thought advisable to furnish a complete list of the 55 coleopterous species so far known to inhabit this archipelago. The percentage of apterous forms is very large, as will be seen by the list; and another peculiar feature is that they are generally of a smoother sculpture than their congeners of the continent. Of Waterhouse's species that have been rediscovered, a more explicit description is given, and for one of them a new genus is proposed. Two new Brazilian Coleoptera attracted attention in the course of the work of comparison and are characterized in footnotes.

Family CARABIDAE.

CALOSOMA GALAPAGEIUM Hope.

Calosoma galapageium HOPE, Trans. Ent. Soc. London, 1837, II, p. 130.

Form and size of *Cychrus stenostomus*, apterous, smooth, and very shining. Head black, impunctate; mandibles piceous; labrum and palpi ferruginous. Antennae ferruginous, slightly darker outward, finely rufo-pubescent from the fifth joint, reaching the elytra to one-fourth the length from the base. Thorax black, aeneous at the base, entirely impunctate, slightly wider than long, subcordate, somewhat wider at apex than at base; disk feebly convex, not depressed at the sides; median line distinctly impressed; basal foveae rounded, deep, approximate to the sides; base truncate; posterior angles prolonged and deflexed. Elytra at base slightly wider than the thorax at middle, ovate, one-half longer than broad, dark cupreous green; humeri rounded; disk slightly convex, feebly (at the sides and apex obsoletely) punctato-striate; intervals nearly flat, smooth; the third, seventh, and eleventh with feebly convex, elongate elevations, separated by rounded very shallow foveae, each fovea with a couple of punctures. Epipleura and ventral surface reddish brown, smooth. Legs ferruginous; tibiae sparsely and finely spinose, the intermediate ones strongly arcuate (male), expanded at apex, pubescent beneath and prolonged into a spine as long as the spurs; anterior tarsi (male) with the first three joints strongly dilated and densely spongy beneath, the first joint campanulate, the second widest, quadrate, the third strongly transverse, the fourth short, emarginate, two-thirds as broad as the third, with a few small spines and a trace of sponginess beneath, fifth joint narrow, cylindrical. Posterior coxae oval obtuse.

Length, 12.5 mm.; width, 5 mm.

One male, collected on Chatham island by Dr. G. Baur.

This is the smallest known species of *Calosoma* and has more the appearance of a *Cychrus*. Hope's description does not mention the sexual characters, and he gives the color as black above and beneath, with the elytral margin violaceous. It is not recorded on what particular island Darwin collected it.

CALOSOMA HOWARDI, new species.

Calosoma ? galapagoum LINELL (nec. HOPE), Annot. Cat. by L. O. Howard, Proc. U. S. Nat. Mus., 1889, XII, p. 191.

Ovate, bluish green above, slightly shining, winged. Head obsoletely sparsely punctate, slightly strigose at the eyes; labrum and mandibles black; palpi piceous. Antennae reaching to about one third the length of the elytra, piceous at base, the hairy joints brown. Thorax one-half broader than the head, one-half broader than long, subcordate, widest before the middle, imperceptibly sinuate behind; posterior angles not prolonged, subacute, forming an acute angle with the humeral margin of elytra; lateral margin narrowly reflexed; base broadly sinuate each side near the angles; disk feebly convex, not depressed at the sides, smooth or obsoletely finely strigose; median line distinctly impressed; the transverse basal impression obsolete, more or less punctate; basal foveae near the hind angles large, rounded, sparsely punctate. Elytra one-half longer than broad, subparallel or slightly wider behind (in the female); striae regular, feebly impressed at base, deeper behind, with small but deep punctures, submarginal striae more obsolete, marginal stria with muricate punctures; intervals of the disk slightly convex, obsoletely transversely rugose toward the sides; the third, seventh, and eleventh intervals interrupted by numerous small shallow foveae for their whole length. Ventral surface black, smooth; episterna of prothorax violaceous; sides of metasternum and first ventral with more or less numerous coarse punctures. Posterior trochanters oval, alike in the sexes. Legs black; tibiae finely spinose, the intermediate ones arcuate (slightly in the female), with coarse and dense yellow pubescence along the exterior groove below the middle.

Length, 16 to 21 mm.; width, 7.5 to 10.5 mm.

Male.—Anterior tarsi with three joints strongly dilated and spongy beneath. Intermediate tibiae strongly arcuate, the apex expanded, with a dense yellow pubescence beneath, and prolonged into a short obtuse spine.

Type.—No. 1311, U.S.N.M.

Two examples from Duncan island and 12 from Chatham island, collected by the *Albatross* expedition in 1888, and 78 from Charles island, collected by the *Albatross* expeditions in 1888 and 1891; also by Dr. G. Baur.

PTEROSTICHUS CALATHOIDES Waterhouse.

Feronia calathoides WATERHOUSE, Ann. Nat. Hist., 1845, XVI, p. 21.
Poecilus calathoides GEMMINGER and HAROLD, Cat. Col., 1868, I, p. 300.

Elongately ovate, black, smooth, shining, very depressed above. Antennae, labrum, palpi, and legs piceo-rufous. Thorax subquadrate, sides arcuate and slightly convergent before the middle, parallel behind; posterior angles rectangular, not carinate; disk with the median line finely impressed and with a single long basal fovea each side, equidistant between the middle and the angles, entirely impunctate. Elytra at base scarcely broader than thorax, obliquely dilated for a short distance and then arcuately narrowed to apex; disk with 9 deeply impressed, impunctate striae; intervals convex, smooth, the second broader at base and with a short stria; the third stria with an impressed puncture toward the base, the second with one at the middle and another one toward apex, the eighth with the usual coarse punctures. Ventral surface smooth, piceous black. Prosternum rounded at apex; episterna of metathorax twice longer than broad. Male without fimbriae on the hind tibiae. Female with the elytra subopaque. Wings aborted.

Length, 11 mm.; width, 4.5 mm.

Two examples from Charles island, collected by the *Albatross* expedition in 1888, and 3 from Chatham island, collected by Dr. G. Baur. If Chaudoir's genera are accepted, the species would belong to the genus *Dysidius*. The island from which Darwin obtained it is not recorded.

PLATYNUS GALAPAGOENSIS Waterhouse.

Feronia galapagoensis WATERHOUSE, Ann. Nat. Hist., 1845, XVI, p. 21.
Poecilus galapagoensis GEMMINGER and HAROLD, Cat. Col., 1868, I, p. 302.

Apterous, elongate, depressed, very smooth, black above, ventral surface and legs rufo-piceous. Antennae ferruginous, with the three basal joints glabrous. Thorax broad, flat, slightly longer than broad, widest at middle, arcuately narrowed to apex, feebly convergent, nearly parallel behind the middle; side margins narrowly reflexed; posterior angles rectangular, obtuse at apex, flattened above; disk entirely impunctate, with a long basal fovea on each side nearer to the lateral margin than to the middle; median line finely impressed; transverse basal impression obsolete. Elytra elongately oval, with rounded humeri and finely impressed smooth striae, the second stria with a puncture behind the middle, the third with one toward the base; intervals flat, finely alutaceous; apices feebly sinuate, slightly prolonged. Episterna of metathorax somewhat longer than broad. Legs slender, moderately long; the anterior tarsi without grooves, the middle and posterior tarsi with lateral grooves.

Length, 11 mm.

One female, collected on Chatham island by Dr. G. Baur. On which island Darwin collected the species is not recorded.

SCARITES GALAPAGOENSIS, new species.

Elongate, parallel, convex, shining black, apterous. Mentum nearly twice broader than long, broadly concave, smooth, acutely carinate at middle, with a round fovea at base each side of the carina; the lobes strongly rounded at the sides with a fine obtuse submarginal carina; the tooth broad at base, abruptly narrowed and acute at apex, longer than the lobes, the margins carinate. Maxillae incurved at apex and acutely mucronate. Mandibles nearly as long as the head, arcuate and acute at apex, bicarinate above, scarcely striate. Antennae piceo-rufous, reaching to the hind angles of the thorax, the basal joint a little longer than the following three together, the second to fourth obconical, decreasing in length, the fifth to tenth broader, compressed, densely rufopubescent, slightly longer than broad; the terminal joint oval, compressed. Paragenae broad, concave, smooth, emarginate and dentate at apex, the inner margin rounded, not carinate. Eyes prominent, truncate behind, and inclosed by the globose tempora. Head smooth, deeply bisulcate in front. Epistoma slightly striate toward the sides, bidentate and emarginate at middle, with two small tubercles at the emargination; the lateral margin in front of the eyes rounded and less prominent than the eye. Labrum subequally tridentate with three coarse punctures, the median puncture bisetose, the lateral ones unisetose. Thorax in front scarcely wider than the head, narrowed and feebly rounded to the hind angles, nearly twice broader than long; disk convex, smooth, the median and anterior transverse lines distinct; anterior margin finely striate; posterior angles distinctly dentate; base pedunculate at middle, the oblique sides being distinctly sinuate; a rounded fovea at the base each side of the peduncle. Elytra as long as head and thorax including the mandibles, narrower than the thorax, slightly dilated at middle and strongly rounded to apex; humeri strongly dentate; disk convex, deeply striate, striae impunctate; intervals smooth, obtusely subcarinate, the third with one puncture toward apex and the usual apical puncture; basal margin and the ninth interval finely granulate, the latter with a series of punctures. Ventral surface smooth; the episterna of metathorax one-third longer than broad. Ventral segments without impressed basal line, the subterminal ones each with two punctures at middle, the terminal with four punctures at the margin; the last two segments, with the lateral margin and a connected spot, red, translucent. Legs moderately stout; the anterior tibiae prolonged at apex, tridentate in front, the upper tooth very small, the terminal one very long and slender, curvate, reaching to the third tarsal joint; no trace of denticles above the third tooth. Middle tibiae with one spine near apex and with a row of denticles, increasing in size from the knee downward. Posterior tibiae slender, without dense fimbriae. Tarsi slender. Claws long, arcuate. Length, 27 mm.; width, 9 mm.

Type.—No. 1312, U.S.N.M.

Two examples, collected on Chatham island by Dr. G. Baur. The species appears to be nearest allied to the Brazilian forms of the *cayennensis* group, but it is apterous, and if intercalated in the table of Chaudoir's monograph it would be placed near the Mediterranean species *S. laevigatus* Fabricius.[1]

SELENOPHORUS GALAPAGOENSIS Waterhouse.

Selenophorus galapagoensis WATERHOUSE, Ann. Nat. Hist., 1845, XVI, p. 22.

Oblong oval, feebly convex, winged, above piceous, distinctly alutaceous, feebly shining; elytra slightly bronzed. Labrum ferruginous, feebly emarginate. Mandibles smooth, scrobes large. Antennae ferruginous, reaching to the humeral angles, the third joint one-half longer than the second. Thorax broader than long, rounded at the sides, widest before the middle, slightly narrowed to the base; posterior angles obtuse; apex feebly sinuate near the angles; base broadly emarginate at middle; disk impunctate, with the median line finely impressed, often abbreviated; transverse apical line effaced; basal foveae feeble. Elytra slightly broader than thorax, basal line slightly sinuate, forming an obtuse angle with the side margin; apices very feebly sinuate; disk with fine smooth striae, more deeply impressed at apex, the second, fifth, and seventh with series of small impressed punctures; the submarginal punctures coarser; subscutellar stria long. Epipleura of thorax and elytra ferruginous. Ventral surface rufopiceous, nearly smooth. Prosternum rounded at apex, not margined.

[1] A very distinct species of *Distichus*, apparently undescribed, has been collected in Santarem, Brazil, by Mr. Herbert H. Smith. It is characterized as follows:

DISTICHUS SMITHI, new species.

Elongate, parallel, black, shining, smooth above and slightly depressed, winged. Mentum rugulose with distinct submarginal and median carina, the tooth very short, obtusely angulate at apex. Paragenae slightly rugose, marginate externally, deeply emarginate at apex. Mandibles long, sinuate externally, strongly toothed, not striate above. Antennae ferruginous, submoniliform, reaching the hind angles of thorax. Head smooth; eyes prominent; epistoma with a few short striae at the sides; lateral margin in front of the eyes angulate, less prominent than the eye. Thorax one-half broader than long, widest in front, scarcely narrowed and feebly rounded to the hind angles; base distinctly pedunculate, finely rugose along the sides and in the rounded foveae; hind angles with a small tooth; disk smooth with median and apical lines deeply impressed, obsoletely strigose along the apical margin. Elytra longer than head and thorax, finely toothed at the humeri, granulate along the basal and lateral margins; disk deeply striate; striae smooth; intervals convex, smooth, the third with six impressed punctures on the outer side. Ventral surface finely rugosely granulate, smooth along the median line. Abdominal segments with two punctures, the terminal segment with four; the basal line on the last three segments distinct. Anterior tibiae with four denticles above the third tooth; the middle tibiae with two spines, the upper one very small, not much different from the nearest of the denticles above. Posterior tibiae with five long hairs on the posterior margin, not densely fimbriate. Length, 23 mm.; width, 7 mm.

Type.—No. 1313, U.S.N.M.

Four examples, Santarem, Brazil.

Legs short, ferruginous. Posterior tarsi with second to fourth joints slightly longer than wide. Length, 8 mm.; width, 3.5 mm.

Five examples, collected on Charles island by the *Albatross* expedition in 1888. It is not stated on what island Darwin collected it. The species is a true *Selenophorus*.

FERONIA INSULARIS Boheman.

Feronia insularis BOHEMAN, Fregatten *Eugenie's* Resa, Zool., L, p. 14.

No particular island of habitat is mentioned for any of Boheman's species.

AMBLYGNATHUS OBSCURICORNIS Waterhouse.

Amblygnathus obscuricornis WATERHOUSE, Ann. Nat. Hist., 1845, XVI, p. 22.

It is not recorded on what island Darwin collected this insect.

NOTAPHUS GALAPAGOENSIS Waterhouse.

Notaphus galapagoensis WATERHOUSE, Ann. Nat. Hist., 1845, XVI, p. 23.

Collected on James island by Darwin.

Family DYTISCIDAE.

COPELATUS GALAPAGOENSIS Waterhouse.

Copelatus galapagoensis WATERHOUSE, Ann. Nat. Hist., 1845, XVI, p. 23.

No island recorded for Darwin's capture of this species.

Family HYDROPHILIDAE.

TROPISTERNUS LATERALIS Fabricius.

Hydrophilus lateralis FABRICIUS, Syst. Ent., p. 228.—WATERHOUSE, Ann. Nat. Hist., 1845, XVI, p. 41.

It is not recorded on what island Darwin collected this species which is widely distributed in America.

PHILHYDRUS species.

Philhydrus species WATERHOUSE, Ann. Nat. Hist., 1845, XVI, p. 41.

Waterhouse suspects this to be identical with a continental species. No particular island is indicated where Darwin collected it.

Family STAPHYLINIDAE.

CREOPHILUS species.

Creophilus, new species ? WATERHOUSE, Ann. Nat. Hist., 1845, XVI, p. 26.

Collected on Chatham island by Darwin.

This is probably *Creophilus villosus* Gravenhorst, introduced from North America.

Family COCCINELLIDAE.

SCYMNUS GALAPAGOENSIS Waterhouse.

Scymnus galapagoensis WATERHOUSE, Ann. Nat. Hist., 1845, XVI, p. 41.

Collected on James island by Darwin.

Family DERMESTIDAE.

DERMESTES CARNIVORUS Fabricius.

Dermestes carnivorus FABRICIUS, Syst. Ent., p. 55.

One example, collected on Chatham island by the *Albatross* expedition in 1891. The species is generally distributed over North and Central America.

DERMESTES VULPINUS Fabricius.

Dermestes vulpinus FABRICIUS, Spec. Ins., I, p. 64.—WATERHOUSE, Ann. Nat. Hist., 1845, XVI, p. 26.

Collected on James island by Darwin. It is cosmopolitan.

Family ELATERIDAE.

PHYSORINUS GALAPAGOENSIS Waterhouse.

Physorinus galapagoensis WATERHOUSE, Ann. Nat. Hist., 1845, XVI, p. 25.

According to a note by Mr. G. C. Champion[1] this species belongs to *Anchastus*. What island Darwin collected it on is not recorded.

HETEROCREPIDIUS PUBERULUS Boheman.

Heterocrepidius puberulus BOHEMAN, Fregatten *Eugenie's* Resa, Zool., 1858, I, p. 66.

Family BOSTRYCHIDAE.

TETRAPRIOCERA LONGICORNIS Olivier.

Tetrapriocera longicornis OLIVIER, Ent., IV, 77, p. 15.

One example taken on Indefatigable island by the *Albatross* expedition in 1888. The species is distributed from southern Florida and West Indies to Central and South America.

AMPHICERUS PUNCTIPENNIS Le Conte.

Amphicerus punctipennis LE CONTE, Proc. Ac. Nat. Sci. Phila., 1858, p. 73.
Apate species WATERHOUSE, Ann. Nat. Hist., 1845, XVI, p. 36.

One specimen, taken on southern Albemarle island by Dr. G. Baur, I consider a form of Le Conte's species, of which I have compared

[1] Biol. Centr.-Amer. Col., III, Pt. 1, p. 385.

specimens from the southwestern United States, Mexico, and Venezuela. It agrees with an example from Los Angeles, California, in having granulate tubercles on the disk of thorax and in wanting the usual elevations on the declivity of elytra. The only difference that might be considered specific is that the apical margin of the elytra is not raised and not recurved to connect with the convex submarginal interval, but this margin is variable in development in individuals from the same locality. Darwin collected his specimens on a dead mimosa tree on Chatham island.[1]

Family CLERIDAE.

NECROBIA RUFIPES De Geer.

Corynetes rufipes De Geer, Mem., V, p. 165.—WATERHOUSE, Ann. Nat. Hist., 1845, XVI, p. 26.

Collected on James island by Darwin. It is cosmopolitan.

Family PASSALIDAE.

NELEUS TLASCALA Percheron.

Neleus tlascala PERCHERON, Mon. des Passales, 1835, p. 45.

One example was collected on Chatham island by the *Albatross* expedition in 1891. The species is distributed from Lower California to Paraguay. It has ample wings.

[1] The following apparently undescribed species of this genus has been collected in Chapada, Brazil, by Mr. Herbert H. Smith:

AMPHICERUS FRONTALIS, new species.

Cylindrical, robust, piceous black, shining, glabrous above. Antennae ferruginous, second joint globose, the following five together as long as the club, gradually wider and more acute on the inner side; the club strongly compressed, eighth and ninth joints transverse, tenth a little longer than wide. Mandibles black, polished, with the scrobes flat, punctate, short and broad. Palpi rufous, densely ciliate. Head transversely rugose beneath, densely longitudinally strigose on the vertex; front shining and finely punctate on the sides, strigose near the eyes; on the middle a large, oval, opaque space, densely covered with small very acute tubercles. Labrum densely covered with yellow hairs. Clypeus dark ferruginous, separated from the front by a deep arcuate impression. Epistoma not separated. Eyes very large. Thorax quadrate with conical hind angles; the anterior declivity without hooks, rather finely granulate and rugose on the summit, each side with prominent acute tubercles; the inflexed sides densely rugosely punctate; disk with a large triangular smooth space at middle, and posteriorly reticulately punctate. Elytra rather finely punctate; humeri prominent, nearly smooth; posterior declivity more coarsely, rugosely punctate; suture scarcely elevated; apex distinctly margined. Ventral surface finely, densely punctulate, with yellowish sericeous pubescence; metasternum sparsely punctulate, nearly glabrous. Legs piceous, finely punctulate and pubescent. Length, 13 mm.; width, 4.5 mm.

Type.—No. 1314, U.S.N.M.

Family SCARABAEIDAE.

COPRIS LUGUBRIS Boheman.

Copris lugubris BOHEMAN, Fregatten *Eugenie's* Resa, Zool., 1858, I, p. 42.

ORYCTES GALAPAGOENSIS Waterhouse.

Oryctes galapagoensis WATERHOUSE, Ann. Nat. Hist., 1845, XVI, p. 26.

One female was collected on Chatham island by the *Albatross* expedition in 1888, and six males were taken by Dr. G. Baur on the same island. It is a light-brown shining insect, wider behind, resembling in form the South American *Bothynus ascanius* Kirby. The punctuation is sparse and fine and the sutural stria distinct. The ventral surface is moderately hairy. Wings are present, but seem to be somewhat aborted. The length of the female is 23 mm., of the males 16 to 19 mm. The generic characters are very different from *Oryctes* Illiger, all the species of which inhabit the Old World. It should form a new genus in the group *Pentedontides* of Lacordaire, and the following name is proposed for it:

PSEUDORYCTES, new genus.

Mentum large, elongate, convex, arcuately narrowed to apex. Mandibles prominent, with the exterior margin entire, strongly rounded. Antennae ten-jointed, club small in both sexes. Head transversely depressed between the eyes, the canthus angulate and prominent. Clypeal suture raised into an obtuse bisinuate ridge, more prominent at middle and at the side margin. Clypeus broader than long, subtriangular, sinuate toward apex (in the male slightly longer and more sinuate than in the female); apical margin reflexed, obsoletely emarginate. Thorax transverse, very convex, deeply emarginate at apex, strongly rounded at the sides, without any impressions in either sex; the posterior angles obtuse in the female, rounded in the male. Stridulating organs forming two longitudinal bands on the middle of propygidium, parallel in the female, convergent to apex in the male. The apical margin of this segment is feebly rounded in the female, in the male prolonged in an acute triangle. Pygidium convex and entirely glabrous in the male, in the female with a slight rounded impression at the middle and the margin ciliate. Prosternum with a conical protuberance behind the coxae. Legs moderately stout, the anterior tibiae quadridentate in the female, in the male tridentate, with the margin above the teeth flattened and rounded. Posterior tibae with two oblique ridges, the apex moderately expanded, truncate and fimbriate. Posterior metatarsus triangular, scarcely longer than broad. Claws simple.

Type.—Oryctes galapagoensis Waterhouse.

Family CERAMBYCIDAE.

MALLODON MOLARIUM Bates.

Mallodon molarium BATES, Biol. Centr.-Amer. Col., 1879, V, p. 9.

The *Albatross* expedition in 1888 collected on Charles, Chatham, and Duncan islands seventeen examples of this large Prionid, which is distributed from Lower California through Mexico and Central America to Panama. The species is amply winged.

ACHRYSON GALAPAGOENSIS, new species.

Cylindrical, luteous, opaque, sparsely clothed with short pale pubescence. Head densely punctate, two spots on the front and one on the vertix, black. Antennae slender, in the male nearly twice the length of the body, in the female slightly passing the apex of elytra. Thorax globose, much more strongly so in the female, narrowly constricted at each end, with elongate black spots, six at apex and six at base; the dorsal spots sometimes connected to longitudinal stripes; in other specimens the spots are wanting, except the dorsal pair at base and the lateral pair at apex; apical margin truncate, basal margin slightly bisinuate; disk with a small smooth space at middle, the punctuation different in the sexes; the female is densely, rugosely punctate, the male has the black spots very finely and densely punctulate with sparse granules, the rufous parts slightly rugosely punctate. Scutellem semioval with dense yellowish hairs. Elytra conjointly rounded at apex, the male with distinct but not very long sutural spines, the female with only acute angles; disk densely rugosely punctate with black spots as follows: A basal spot each side in the depression inside the humerus, a circumscutellar spot and on each elytron six elongate spots, arranged in two transverse curved bands, one before and the other one behind the middle; the lateral spots of these bands are sometimes wanting but the central spots on each elytron are generally connected and prolonged toward apex. Metasternum, abdomen, and legs sparsely and finely muricately punctate. Wings ample. Length, 16 to 20 mm.

Type.—No. 1315, U.S.N.M.

Two males and two females, collected on Chatham island by Dr. G. Baur.

EBURIA LANIGERA, new species.

Female.—Elongate, somewhat depressed, brownish testaceous, densely clothed with long appressed grayish hairs. Antennae slightly longer than the body, with only slight traces of flying hairs; scape one-fourth shorter than third joint, feebly clavate, slightly compressed but not flattened, finely punctate; third to eleventh joints filiform, slightly decreasing in length. Thorax scarcely longer than broad, strongly

narrowed in front, sparsely rugosely punctate; lateral spines moderate, conical, acute; lateral tubercles in front small, flattened, black, not at all prominent; dorsal tubercles small, conical, black. Elytra depressed along the suture, each with two pairs of elevated, yellow, linear spots, surrounded by obscure color, the basal pair well separated, the exterior twice the interior four times longer than broad; the posterior pair of spots are approximate, the exterior one twice longer. There are traces of costae behind the posterior spots. The basal half of the elytra and the dark spots surrounding the posterior ivory spots are punctate but not granulate, the sides and apex are obsoletely punctulate. The elytral apices are emarginate with short subequal spines. Legs slender, the middle and posterior femora bispinose, the spines short, the interior ones slightly longer. The posterior femora reaching to apex of elytra. Length, 20 mm.

Type.—No. 1316, U.S.N.M.

One specimen, collected on Charles island by the *Albatross* expedition in 1888.

EBURIA BAURI, new species.

Male.—Elongate, slightly depressed, ferruginous, sparsely clothed with a short, recumbent pubescence. Antennae twice longer than the body, the four basal joints densely rugose and with long hairs on all sides; the outer joints fimbriate with long hairs, finely punctulate, canaliculately impressed, beginning from the apex of the fifth joint; scape feebly clavate, scarcely more than half as long as the third joint; the terminal joint one-third longer than tenth and curvate. Thorax transverse, densely rugose; lateral spines small, subconical; tubercles on the sides in front obtuse, not prominent; dorsal tubercles black, small, rounded. Elytra with two pairs of small yellow elevated spots, surrounded by black, all well separated; the basal pair largest, the inner one somewhat shorter; the discal pair very small, the inner one almost punctiform; punctuation moderately coarse at base, not different on the black marks, gradually finer toward apex, the intervals very finely rugosely granulate; apices acuminate and spinose at middle, without sutural spines. Legs moderately stout, femora not spinose, the posterior pair very far from reaching the apices of elytra. Length, 22 mm.

Type.—No. 1317, U.S.N.M. Two examples, collected on Chatham island by Dr. G. Baur.

Female.—Color as in the male. Antennae not rugose, somewhat longer than the body, the scape two-thirds the length of the third joint, distinctly flat on the anterior face; outer joints compressed. Head and thorax with longer pubescence and long, erect hairs intermixed. Thorax somewhat narrowed at apex, scarcely rugose, the spines and tubercles larger, all black. Elytra more convex, muricately punctate, gradually more finely toward apex; the ivory spots much larger, more distinctly surrounded with black, the inner one of the

basal pair much larger than the exterior one; apices truncate, with long spines, the sutural spine half as long as the exterior one. Middle and posterior femora with a long apical spine on the inner side. Length, 19 to 35 mm.

Type.—No. 1318, U.S.N.M.

Three specimens, collected on Chatham island by Dr. G. Baur.

EBURIA AMABILIS Boheman.

Eburia amabilis BOHEMAN, Fregatten *Eugenie's* Resa, Zool., 1858, I, p. 151.

Described by Boheman as having the thorax one-half longer than broad and the basal ivory spots of elytra connected at apex. The length is given as 13 mm.

ACANTHODERES GALAPAGOENSIS, new species.

Subtrigonal, moderately convex, brownish, covered with a fine ashy-gray pubescence and maculate with lighter and darker brown. Antennae passing the body by the last three joints, annulated with dark brown, the third to eleventh joints filiform, the third and fourth together as long as the four following joints together; the terminal joints sparsely ciliate in the male. Front sparsely punctate. Eyes coarsely granulate. Thorax with narrow median carina, dorsal tubercles obtusely conical, lateral tubercles large, acute; intervals and margins with sparse, coarse and deep punctures. Sides of scutellum brown. Elytra narrowed to apex, the suture and margins with brown spots; two dark-brown, strongly-angulate, transverse bands behind the middle; the centrobasal ridges feebly raised at the base, prolonged in an obtuse flexuous carina toward apex; the basal half sparsely covered with granules, each of which has a small puncture behind, the apical half nearly smooth; apices emarginate, the outer angle with a short spine. Prosternum regularly arcuate, feebly canaliculate. Mesosternum flat, without tubercles, vertical in front. Femora moderately clavate. Tibiae biannulate with brown, the anterior ones not dilated nor compressed. Anterior tarsi moderately dilated in the male, fringed with black hairs. Posterior metatarsus very long and slender, as long as the three following joints together. Length, 14 mm. (male) to 16 mm. (female).

Type.—No. 1319, U.S.N.M.

One male and one female, collected on Chatham island by Dr. G. Baur. The species resembles much the Brazilian *A. lateralis* Bates in form, structure, and coloration, but the fasciate elytra and the much longer posterior metatarsus will at once distinguish it.

Family CHRYSOMELIDAE.

HALTICA GALAPAGOENSIS Waterhouse.

Haltica galapagoensis WATERHOUSE, Ann. Nat. Hist., 1845, XVI, p. 39.

Collected by Darwin on Charles island.

Family TENEBRIONIDAE.

Genus STOMION.

Stomion WATERHOUSE, Ann. Nat. Hist., 1845, XVI, p. 27.

A genus peculiar to this archipelago. It is allied to the Californian genus *Emmenastus* Motschulsky, but the intercoxal process of abdomen is broad and the tarsi are finely spinose beneath. They are apterous with the elytra connate. Several closely allied species occur.

STOMION CARINIPENNE, new species.

Oblong, opaque, black above, rufopiceous beneath, antennae and legs rufous. Thorax densely, rather coarsely, punctate, scarcely narrowed in front, sides nearly parallel. Elytra at base broader than thorax; striae deep, coarsely punctate; intervals obtusely carinate with scattered minute punctures. Length, 8 to 9 mm.

Type.—No. 1320, U.S.N.M.

Eight specimens from Charles island, collected by Dr. G. Baur.

STOMION GALAPAGOENSE Waterhouse.

Stomion galapagoense WATERHOUSE, Ann. Nat. Hist., 1845, XVI, p. 29.

Oval, opaque, piceous black above, ventral surface, antennae and legs rufopiceous. Thorax less densely, not strongly, punctate, very short, distinctly narrowed to apex; sides rounded. Elytra at base not broader than thorax; striae deep, coarsely but not closely punctate; intervals convex but not carinate, obsoletely transversely rugulose, sparsely minutely punctulate. Length, 8 to 10.5 mm.

Seven examples, collected on Chatham island (six by *Albatross* expedition, 1888, and one by Dr. G. Baur) have above-mentioned relative characters, and agree tolerably well with Waterhouse's description. The island where Darwin collected his specimens is not recorded.

STOMION PICEUM, new species.

Oval, opaque, piceous above, ventral surface, antennae and legs rufopiceous. Thorax densely, more strongly, punctate, very short, distinctly narrowed at apex; sides rounded. Elytra at base not broader than thorax; striae feebly impressed, finely punctate; intervals broad, feebly convex, distinctly punctate. Length, 8.5 to 11 mm.

Type.—No. 1321, U.S.N.M.

Sixteen specimens, collected on Chatham island, (twelve by *Albatross* expedition in 1888 and four by Dr. G. Baur) show some variation in sculpture, but are probably one species, distinct from the previous form, although very closely allied.

STOMION BAURI, new species.

Oblong, subcylindrical, somewhat shining, black above, ventral surface and legs piceous, antennae rufous. Thorax quadrate, strongly convex, not narrowed at apex, finely and moderately densely punctate; sides broadly rounded. Elytra at base scarcely broader than thorax; humeri acute; striae feebly impressed, very finely punctate; intervals feebly convex, obsoletely minutely punctate. Male with mentum densely rufo-villose. Length, 7 to 8 mm.

Type.—No. 1322, U.S.N.M.

Three examples, collected on southern Albemarle island by Dr. G. Baur. The species is very distinct by its form.

STOMION HELOPIOIDES Waterhouse.

Stomion helopioides WATERHOUSE, Ann. Nat. Hist., 1845, XVI, p. 30.

Described as having the thorax transverse, not narrowed in front, the elytral striae not strongly punctate and the intervals flat. Size, 6 to 7 mm. No island is recorded where Darwin collected this or the next species.

STOMION LAEVIGATUM Waterhouse.

Stomion laevigatum WATERHOUSE, Ann. Nat. Hist., 1845, XVI, p. 30.

Described as having the elytra smooth.

Genus AMMOPHORUS Guérin de Méneville.

Ammophorus GUÉRIN, Voy. Coquille Ent., 1830, II, p. 94.

A genus allied to *Eulabis*, from California, differing in the cylindrical antennae with the last joint truncate. Species are known from Peru, Chile, Hawaiian Islands (?), and Galapagos Archipelago.

AMMOPHORUS GALAPAGOENSIS Waterhouse.

Ammophorus galapagoensis WATERHOUSE, Ann. Nat. Hist., 1845, XVI, p. 30.

Described as having the head and thorax longitudinally strigose, the latter with acute front angles and nearly straight hind angles; the elytra with eight sulci and equal intervals, the suture raised. It was collected on Chatham island by Darwin.

AMMOPHORUS BIFOVEATUS Waterhouse.

Ammophorus bifoveatus WATERHOUSE, Ann. Nat. Hist., 1845, XVI, p. 31.

Described as having the thorax rather finely punctured, the sides suddenly and equally constricted before and behind with the angles

acute, the posterior ones prominent, the disk with two shallow grooves on the sides and numerous longitudinal rugae, two of which on the median line are more conspicuous and separated by a narrow ridge. The punctures of the elytral striae are closely placed. It was collected on James island by Darwin.

AMMOPHORUS CAROLI, new species.

Piceous black, feebly shining, antennae, mouth and ventral surface rufopiceous, legs rufous. Head and thorax coarsely and densely but not confluently punctate, the latter broader than long, distinctly narrowed behind; the sides irregularly rounded, only constricted at the base; anterior angles rectangular; posterior angles acute, laterally prominent; disk on each side with one discal and three marginal shallow foveae. Elytra not broader than thorax, regularly ovate; humeral tooth distinct; striae nine, deeply impressed, with large, rounded, deeply impressed punctures, separated by at least their own width; intervals equal, narrow, acute, except the one nearest the suture, which is broader and more obtuse; the sutural edges scarcely raised. Thorax beneath very coarsely, irregularly punctate. Abdomen less coarsely punctate, the last two segments finely and sparsely punctulate. Wings wanting (as probably in all species of this genus). Length, 5.5 mm

Type.—No. 1323, U.S.N.M.

One example, collected on Charles island by the *Albatross* expedition in 1888.

AMMOPHORUS OBSCURUS Waterhouse.

Ammophorus obscurus WATERHOUSE, Ann. Nat. Hist., 1845, XVI, p. 32.

Described as black, obscure, with piceous antennae and legs; head and thorax rugosely punctate, the latter narrow with the angles prominent; the elytra have the suture flat and the punctures of the striae transverse. What island Darwin collected it on is not recorded.

A specimen collected on southern Albemarle island by Dr. G. Baur agrees nearly with this description, but may prove to be a different species. The head and thorax are distinctly alutaceous, the former finely punctate in front, more strongly behind, the punctures not confluent; the thorax is longitudinally strigose, but the punctures are small and well separated.

Genus PEDONOECES Waterhouse.

Pedonoeces WATERHOUSE, Ann. Nat. Hist., 1845, XVI, p. 33.
Tessaromma BOHEMAN, Fregatten *Eugenie's* Resa, Zool., 1858, I, p. 91.

Forms of the group *Blapstini*, closely allied to the Californian genus *Notibius* Le Conte, by the quadrangular intercoxal process and the apterous body.

PEDONOECES GALAPAGOENSIS Waterhouse.

Pedonoeces galapagoensis WATERHOUSE, Ann. Nat. Hist., 1845, XVI, p. 35.

Described as having the thorax densely punctured and the elytral intervals simply convex and glabrous. No particular island of habitat is recorded.

PEDONOECES COSTATUS Waterhouse.

Pedonoeces costatus WATERHOUSE, Ann. Nat. Hist., 1845, XVI, p. 35.

Described as having the punctuation of thorax confluent, forming longitudinal narrow ridges and the elytral intervals alternately costate. It was collected on James island by Darwin.

PEDONOECES MORIO Boheman.

Tessaromma morio BOHEMAN, Fregatten *Eugenie's* Resa, Zool., 1858, I, p. 92.

According to the description, this has the thorax densely and finely punctate and the elytral intervals carinate.

PEDONOECES PUBESCENS Waterhouse.

Pedonoeces pubescens WATERHOUSE, Ann. Nat. Hist., 1845, XVI, p. 36.

According to the description, this species also has the thorax densely punctulate, but the elytral intervals convex and pubescent.

PEDONOECES BAURI, new species.

Elongate, parallel, depressed, subopaque, piceous; antennae ferruginous, slender, gradually, not strongly, clavate. Head and thorax distinctly alutaceous, sparsely and finely punctulate. Superior portion of eye rather large, rounded. Sides of front arcuate. Thorax broader than long, regularly but feebly convex, emarginate at apex; sides not ciliate, parallel from the base, rounded and slightly convergent anteriorly; the angles slightly prominent but obtuse; base finely margined, distinctly sinuate at the sides; basal foveae feeble. Elytra not broader than thorax; striae feebly impressed with distant deep rounded punctures; intervals convex, not carinate, alutaceous and sparsely punctulate, swollen and somewhat irregular on the posterior declivity, sparsely pubescent at the sides. Legs obscurely ferruginous; anterior tibiae slender, slightly compressed; tarsi not dilated. Last ventral segment flattened at middle, apex with a small rounded emargination. Length, 7.5 mm.

Type.—No. 1324, U.S.N.M.

One male specimen, collected on Chatham island by Dr. G. Baur. Differs from all the preceding species by the sparsely punctulate head and thorax.

GNATHOCERUS CORNUTUS Fabricius.

Trogosita cornuta FABRICIUS, Ent. Syst. Suppl., p. 51.

One example of this cosmopolitan species was collected on southern Albemarle island by Dr. G. Baur.

PHALERIA MANICATA Boheman.

Phaleria manicata BOHEMAN, Fregatten *Eugenie's* Resa, Zool., 1858, I, p. 92.

Family CISTELIDAE.

LOBOPODA GALAPAGOENSIS, new species.

Female.—Elongate, subfusiform, brownish piceous, feebly shining, sparsely pubescent. Head moderately finely, not densely, punctate; eyes large, moderately widely separated. Thorax nearly twice wider than long, rather finely, not densely, punctate, obsoletely canaliculate; sides scarcely sinuate, feebly convergent; anterior angles strongly rounded, posterior angles somewhat acute; base deeply bisinuate; basal foveae rounded, deep. Scutellum transverse, punctate, subtruncate at apex. Elytra long, wide at the base, narrowed from a little beyond the humeri, deeply striate; striae very closely crenately punctate; intervals nearly flat, sparsely muricately punctate; apices acute. Ventral surface darker piceous, sparsely punctulate. Legs slender, femora piceous, tibiae, tarsi, and antennae ferruginous. Penultimate joint of anterior and middle tarsi shortly lobed. Prosternum abruptly declivous behind. Mesosternum oblique and emarginate in front. Length, 10 mm.

Type.—No. 1325, U.S.N.M.

Two females, collected on Charles island by the *Albatross* expedition in 1888.

Family OEDEMERIDAE.

OXACIS GALAPAGOENSIS, new species.

Elongate, parallel, pale testaceous, feebly shining, sparsely and finely pubescent. Head short, finely punctate, with a fuscous stripe on the vertex. Antennae eleven-jointed, inserted close to the eyes, scarcely longer than half the body; second joint very short, last joint not constricted. Eyes grayish black, very large, rounded, feebly emarginate. Mandibles simple, very acute, the apical half black. Maxillary palpi with last joint one-half longer than the penultimate, widest at middle, the apical side a little longer than the inner and slightly rounded. Labial palpi with last joint feebly dilated, the apical margin rounded. Thorax as wide as long, widest near the apex, obliquely narrowed to the base, finely rugosely punctate, with a median stripe and a marginal spot each side, infuscate. Elytra slightly narrowed to

apex, finely rugosely punctate, obsoletely costate; a broad band from humerus to apex and a short stripe near the scutellum infuscate. Ventral surface finely rugose; the last segments infuscate at the sides. Legs slender, pale. All tibiae with two spurs. Tarsi with penultimate joint slightly dilated and spongy beneath. Claws toothed at base. Length, 11 mm.

Type.—No. 1326, U.S.N.M.

Three examples, collected on Chatham island by Dr. G. Baur. The species resembles *Alloxacis dorsalis* Melsheimer, from eastern North America, but both mandibles are simple.

Family OTIORRHYNCHIDAE.

OTIORRHYNCHUS CUNEIFORMIS Waterhouse.

Otiorrhynchus cuneiformis WATERHOUSE, Ann. Nat. Hist., 1845, XVI, p. 38.

Collected on Charles island by Darwin.

Genus PANTOMORUS Schoenherr.

The following species agrees in most characters with *Pantomorus* as amended by Dr. Sharp,[1] and may be temporarily listed under that genus. The antennae are moderately slender, scape slightly passing the eye, second joint of funicle nearly twice as long as first, club subfusiform, acute at apex. Rostrum flat above, feebly emarginate at apex, as long as the head, with a deep median channel from its middle to the vertex. Mandibles with distinct scar, situated on a conical protuberance. Scrobes terminal, visible from above, very deep; arcuately deflexed at a distance from the eye; the acute ridge limiting them above continued straight to the upper margin of the eye. Thorax transversely globose, strongly constricted at apex, without ocular lobes or fimbriae; base less constricted, bisinuate, much more strongly in the male. Scutellum scarcely visible, vertical. Elytra with distinct but obtuse humeri, widest behind the middle; the base of each separately rounded, feebly in the female, more strongly in the male with the margin reflexed each side of the scutellum; disk very convex with ten entire striae of coarse punctures. Wings partially developed. Mentum large, concave. Front coxae very large, contiguous. Middle coxae narrowly separated. Epimera of mesothorax moderately large. Metasternum short, the episterna in front angulate each side. Intercoxal process of abdomen very broad, the first suture angulate at middle, the second segment longer than third and fourth together. Legs long, especially in the male, the intermediate ones the shortest; femora incrassate at middle; anterior tibiae prolonged, strongly denticulate within, arcuate toward apex, strongly mucronate; intermediate tibiae simple in the female, slightly arcuate and denticulate in the male and

[1] Biol. Centr.-Amer. Coleopt., IV, Pt. 3, p. 153.

with a small mucro. Posterior and middle tibiae laminate at apex with large smooth articular surface; corbels of the posterior pair closed, fusiform, scaly. Tarsi moderately dilated, the first joint a little longer than the second, slightly incrassate in the male. Claws divergent.

PANTOMORUS GALAPAGOENSIS, new species.

Piceous black, feebly shining, sparsely clothed with grayish and brown appressed hairs, that are easily abraded. Rostrum rugosely punctured, more strigose at the sides. Head and thorax aciculate, finely punctate and somewhat scabrous, the latter much larger in the male. Sides of thorax beneath with denser hairs, the hairs scale-like in the female. Length, 10 to 12 mm.

Type.—No. 1327, U.S.N.M.

One male and four females from Chatham island (three collected by the *Albatross* expedition in 1888 and two by Dr. G. Baur).

ANCHONUS GALAPAGOENSIS Waterhouse.

Anchonus galapagoensis WATERHOUSE, Ann. Nat. Hist., 1845, XVI, p. 39.

Collected on James island by Darwin.

Family SCOLYTIDAE.

A single specimen, unfortunately without elytra, taken on Charles island by Dr. G. Baur. It belongs in the group Hylurgi, but has not been identified with certainty.

Family ANTHRIBIDAE.

ORMISCUS VARIEGATUS Waterhouse.

Ormiscus variegatus WATERHOUSE, Ann. Nat. Hist., 1845, XVI, p. 37.

Collected on Charles island by Darwin.