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DESCRIPTIONS OF SOME WEEVILS REARED FROM COTTON IN PERU.

BY

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DESCRIPTIONS OF SOME WEEVILS REARED FROM COTTON IN PERU.[1]

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INTRODUCTION.

Some of the most important pests to Peruvian cotton culture are weevils. Through the kindness of Mr. C. H. T. Townsend, Entomologist of Peru, a number of species reared by him from cotton stalks, squares, and bolls have been received by the writer. Inasmuch as there has been more or less commerce between Peru and the United States in cotton seed it has been thought best to present detailed descriptions of these species together with what little information has already been gleaned as to their habits.

A collection of weevils taken on cotton in Brazil will form the subject of a later paper.

The weevils to be described herein are arranged according to their systematic order. All belong to the series Phytophaga, although the bruchids, or bean weevils, of the family Mylabridæ do not belong to the subseries Rhynchophora, which contains the true weevils.

Family MYLABRIDÆ.

Subfamily MYLABRINÆ.

Three species of bruchids, or "bean weevils," were received from Mr. Townsend, all of them suspected of breeding in cotton squares. While it is not unusual to find these beetles on cotton squares at nectar, no species has yet been definitely reared from cotton. On the other hand, there are species known positively to breed in the seed of other Malvaceæ. In view of the possibility of their being true cotton weevils they are included here. From the standpoint of inspection work they should by all means be excluded from the United States, because if not cotton weevils they most assuredly are leguminous seed weevils, and hence potentially dangerous.

Genus MYLABRIS Geoffroy.

The genus *Mylabris* is very complex as it now stands, for it includes all the species formerly associated with *Bruchus* which have not yet been separated from the typical genus.

[1] All the illustrations, with the exception of Plate I, figure 4, which was drawn by the writer, have been prepared under the writer's direction by Mr. Harry L. Bradford.

The old genus *Bruchus* erected by Linnæus in 1767 (not Geoffroy, 1762) is a synonym of *Mylabris* Geoffroy, 1762, and of *Laria* Scopoli, 1763; hence the family name Mylabridæ for the older names Bruchidæ and Lariidæ. There is no justification for clinging to a name because it has been used a long time when that name is not only preoccupied but also twice superseded by valid names for the same type species. As long as our rules of nomenclature exclude homonyms and synonyms we have no right to use a name thrice ruled out; hence the more or less unfortunate readjustment of family names. The old genus *Bruchus* is rapidly and rightly being broken up into smaller and more coherent genera and there will ultimately not be many species requiring the name *Mylabris*.

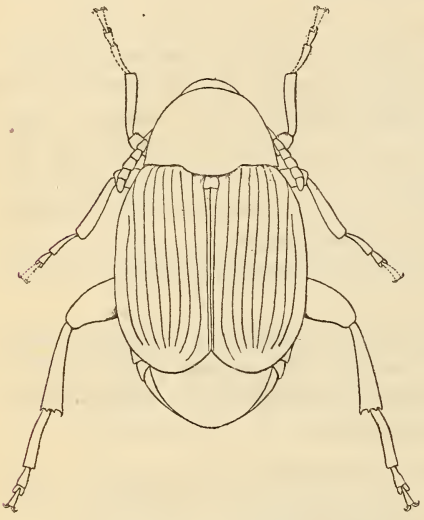


FIG. 1.—*Mylabris peruanus:* Female. (Original.)

Mylabris peruanus, new species.

(Text figs. 1 and 2.)

Described from one female specimen from Piura, Peru, said by Mr. Townsend to have come from cotton squares and bearing his number 25009. The present species is a member of the second stirps, first manipulus, second part, in Schönherr's (1833) treatment of the genus *Bruchus* and comes nearest in general characters to *leguminarius* Gyllenhal of Chile, differing also from *testudinarius* Erichson, the only species in the group described from Peru. It appears to belong in Sharp's sixth group of *Bruchus*.

Length, 2.5 mm; breadth, 1.6 mm.

Integument piceous black, with much of the elytra and edges of pygidium reddish piceous and the labrum, palpi, antennæ (except toward apex where they are darker), legs, and sides of abdomen reddish yellow. Pubescence above ochraceous; with brownish spots on each elytron near base, apex, and middle of side, and median striæ brownish; yellowish pubescence in spots at base and apex of thorax on median line, on each side of disk on thorax before middle, at posterior angles of thorax, scutellum, just before middle on fifth striæ of elytra, near apex on seventh striæ, on median line of pygidium especially at base and also at basal angles, and on apical margin. Pubescence of head, underparts, and appendages yellowish cinereous. Eye_3 large, globular, prominent; moderately finely faceted, very deeply and rather broadly emarginate, leaving the inner lobe only about three rows of facets; separated in front by a distance equal to the length of the first two antennal joints. Head narrower behind eyes; surface punctate, pubescent, between eyes carinate. Labrum smooth, glabrous. Antennæ with first five joints pale, all pubescent; first and third subequal, longer than second; fourth shorter than second; fifth to tenth subequal in

length, transverse, flattened oblong, extended outwardly; eleventh longer, flattened conical. Prothorax transverse, apically truncate, broadly truncate at each side, but broadly obtusely lobate in middle; apex two-thirds the width of the base; sides convergent, convex; surface punctate, rather densely pubescent, especially on basal lobe. Scutellum quadrate. Elytra subquadrate oblong, but little wider than prothorax at base, widest behind humeri, sides subparallel from widest point, apices separately rounded; striæ deeply impressed, punctate; pubescence moderately dense; interspaces flat. Pygidium visible from above, slightly oblique, broadly oval; sides convergent, convex; apex rounded. Undersides finely, closely pubescent, very minutely punctate. Claws strongly toothed; posterior femora with a single minute tooth on inner lower edge; posterior tibiæ almost straight. Three middle abdominal segments short, subequal, fifth a little longer.

Type.—Cat. No. 18445, U. S. National Museum.

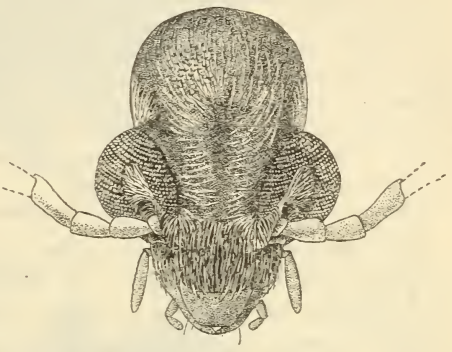


FIG. 2.—*Mylabris peruanus:* Face of female. (Original.)

Genus PACHYBRUCHUS Pic.

The genus *Pachybruchus* is characterized by an elevated, subcubical form; large head with very large eyes; subflabellate antennæ in the male; short abdomen; vertical pygidium; mutic hind femora, and carinate hind tibiæ. The very short thorax is much narrowed in front.

This genus corresponds to Sharp's seventh division of the genus *Bruchus* Linnæus, 1767 (not Geoffroy, 1762).

Pachybruchus verticalis, new species.

(Pl. I, figs. 1 and 4.)

Described from one male specimen from Piura, Peru, said by Mr. Townsend to have come from cotton squares and bearing his number, 25009.

Length, 3 mm.; breadth, 1.75 mm.

Integument reddish testaceous, variegated with black. Head dark piceous, eyes almost black; thorax with a few black spots; elytra with black fasciæ leading diagonally back from humeri, and black subapical spots; pygidium with four black areas; posterior coxæ almost black. Legs light brownish; antennæ reddish at base but with flabelli black, at least at tip. Vestiture above ochreous and griseous, beneath pale yellowish. Eyes very large, globular, prominent, coarsely faceted, deeply but narrowly emarginate, almost touching in front. Emargination of eyes and face, except labrum, clad with golden pubescence. The frontal area between the eyes is narrow, wedge-like, carinate, and transversely cut off from head behind eyes by a constriction. Head strongly constricted into a neck, behind the eyes. Antennæ 11-jointed, the first elongate, twice as long as second; second but little longer than broad; third longer than second, outwardly angulate; fourth with an outward pectination as long as the joint; fifth with a pectination twice as long as the preceding; remaining joints flabellate, with projections twice as long as that of the fifth; the entire antennæ

pubescent. Prothorax trapezoidal in form, the base twice as wide as apex; sides strongly oblique, slightly sinuate; apex truncate; base broadly lobed, bisinuate on each side; posterior angles acute. Surface finely granulate-punctate, basally longitudinally impressed on median line and on each side of basal lobe; pubescence moderately close, fine, ochreous. Scutellum quadrate, apically cleft, densely clad with white pubescence. Elytra quadrate, hardly wider than prothorax at base; humeri slightly rounded, apex subtruncate, posterior, exterior, and interior angles rounded; striæ punctate, impressed; surface finely granulate-punctate, reddish, with lateral black areas; pubescence on black areas inconspicuous brownish, otherwise ochreous, except in a large median area, where it is white. Pygidium vertical, large, oval, narrowly rounded at apex; reddish, with black patches; a basal area, ogival in shape, is very densely white pubescent, the white extending on the median line almost to apex; pubescence over black areas ochreous, over reddish areas, white. Undersides reddish, except the posterior coxæ, which are black; granulate-punctate; posterior coxæ finely punctate. Legs light brownish, finely pubescent; claws strongly toothed beneath; posterior femora mutic, under surface defined by two lines, but hardly concave; posterior tibiæ arcuate.

Type.—Cat. No. 18446, U. S. National Museum.

This species is apparently close to the poorly-described *Bruchus eulophus* Erichson of Peru. It differs by many characters from *Pachybruchus atripes* Pic of Peru. Only five species belonging to the old conception of *Bruchus* have been recorded from Peru.

Genus SPERMOPHAGUS Schönherr.

Spermophagus piuræ, new species.

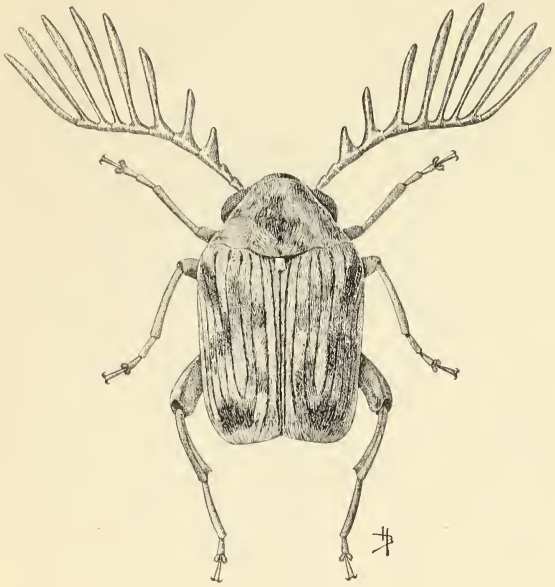
(Text fig. 3.)

Described from three specimens from Piura, Peru, of which Mr. Townsend, under his note number 21010, says, "I have had from cotton squares and from mesquite pods."

FIG. 3.—*Spermophagus piuræ:* Face. (Original.

Length, 5–5.5 mm.; breadth, 2.5–3 mm.

Color of integument reddish-piceous above, on pygidium, antennæ, tarsi, and apical parts of femora and tibiæ, small spots at the side of the first, second, third, and fourth segments, and entire fifth segment; remainder of body black or almost so. Pubescence dense, ochreous above, griseous beneath. Eyes large, prominent, coarsely granulated, broadly angulately emarginate, separated by a distance equal to one-third the distance between the antennæ. Vertex and front densely pubescent, finely punctured; clypeus sparsely punctured and pubescent; labrum almost glabrous. Antennæ with the first three joints lighter reddish brown; first elongate, longer than the next two combined; second shortest; third a little longer; succeeding joints compressed, emarginate at apex, subequal; eleventh a little longer and apically pointed. Prothorax two-thirds as long as wide; slightly convex at apex; base lobate at middle, on each side of which it is subtruncate or slightly sinuate; sides subparallel in basal half, thence convexly narrowed to apex; minutely punctate, densely pubescent; impressed on each side of disk behind middle and also at base on each side of lobe. Scutellum elongate ogival, densely pubescent. Elytra barely



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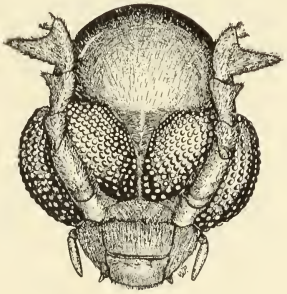

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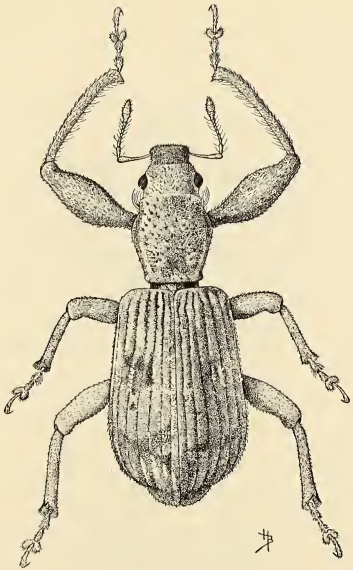
2

WEEVILS REARED FROM COTTON IN PERU.

Fig. 1.—*Pachybrachus verticalis*, male. Fig. 2.—*Gasterocercodes gossypii*, female. Fig. 3.—*Gasterocercodes gossypii*, side view of head of female. Fig. 4.—*Pachybrachus verticalis*, face of male. (Original.)

1



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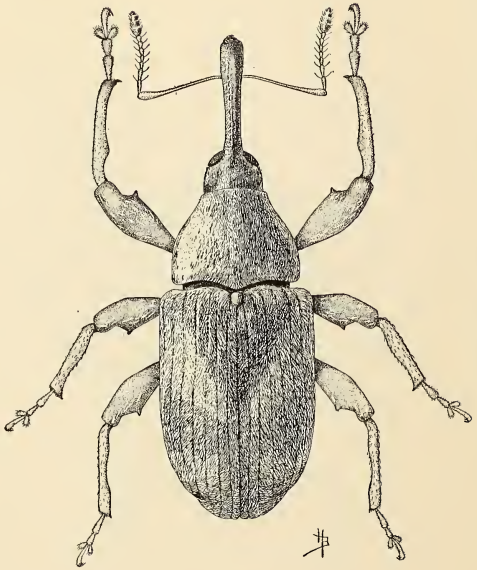

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WEEVILS REARED FROM COTTON IN PERU.

Fig. 1.—*Eustylomorphus squamipunctatus.* Fig. 2.—*Menetypus variegatus*, female. Fig. 3.—*Anthonomus vestitus*, male. (Original.)

wider than thorax at base, humeri absent; sides widening a little behind base, thence subparallel to apical fourth; apically rounded; sutural angles separately rounded. Elytral striæ very finely punctate, impressed, but almost concealed by pubescence; interspaces densely pubescent, faintly convex. Pygidium rounded, broadly oval, densely pubescent, with median line more condensed pubescent. Undersides densely pubescent. Outer spur of posterior femora slightly longer than the inner; posterior femora moderately incrassate; claws strongly toothed beneath.

Type.—Cat. No. 18447, U. S. National Museum.

The species approaches very closely the Peruvian *S. baeri* Pic, from which it seems to differ in size, color of pubescence, and minor details. It may prove identical, but the description of that species is too inadequate to enable a correct identification. The species also appears to be near *S. obscurus* Sharp and *S. hoffmanseggi* Schönherr.

Family BRACHYRHINIDÆ.

Subfamily BRACHYRHININÆ.

Tribe PLATYOMINI.

Genus EUSTYLOMORPHUS, new genus.

Rostrum stout, not longer than head, not dilated anteriorly, strongly impressed between the raised margins of the scrobes, with median line sulcate; nasal plate crescentiform, sparsely squamose; genæ triangularly excised; scrobes entirely visible from above, short, directed at eyes, squamose behind and not reaching eyes. Antennæ squamose; scape reaching prothorax, clavate; funicle 7-jointed; club 4-jointed, not much wider than funicle. Eyes oval, slightly truncate in front. Prothorax transverse, bisinuate at base, truncate at apex. Scutellum small, broadly rounded behind. Elytra elongate, parallel sided, striate punctate, 10-striate; outer striæ entire; humeri prominent, rounded. Front coxæ contiguous, middle coxæ narrowly separated, posterior coxæ widely separated. Anterior tibiæ minutely armed at apex. Posterior tibiæ with terminal inclosed area; articular surface ascending, squamose. Body winged, densely squamose.

The genus is to be placed next to *Eustylus* Schönherr in the tribe named by Champion Platyomina.

Eustylomorphus squamipunctatus, new species.

(Pl. II, fig. 1.)

Described from four specimens which issued from lots of cotton squares at Piura, Peru, collected by C. H. T. Townsend and bearing his numbers 22010 and 11009.

Length, 4.75–5.5 mm.; breadth, 1.75–2 mm.

Color of integument reddish piceous; body throughout densely squamose with flat scales; polygonally crowded pavement scales of differing shapes and sizes above, and rounded overlapping scales below; scales of upper surface interspersed with sparser short whitish setæ, often cleft at apex, and of under surface with long white setæ; vestiture faun color mixed with brown above, and almost white beneath. Head a little longer than beak, densely clothed with flat pavement scales, sparsely setigerous, the setæ arising from punctures; median line sharp from base to a point

even with posterior edge of eyes; beak with margins of scrobes elevated, the area between concave; nasal plate crescentiform, squamose; beak apically margined with long bristles; mandibles squamose at base; genæ angularly emarginate; scrobes dorsal, deep, directed toward eyes but not reaching them; eyes not strongly convex. Antennal scape arcuate, reaching prothorax, densely squamose with round scales, sparsely setose; funicle 7-jointed, densely covered with decumbent setæ, joints gradually diminishing in length, the last as broad as long; club elongate, not much wider than funicle, 4-jointed, finely pubescent. Prothorax transverse, bisinuate at base, truncate at apex, convex at sides, constricted near apex; surface densely squamose, sparsely punctate setose; posterior margin densely setose. Scutellum minute, triangular, squamose. Elytra elongate, punctate striate, parallel sided; humeri rounded; strial punctures squamigerous; intervals faintly convex, each with a row of setæ. Femora moderate, clavate, unarmed; tibiæ of front legs unguiculate; posterior tibiæ with elliptical squamose disk surrounded by bristles at apex; articular surface ascending, squamose. Legs densely squamose, moderately closely setose. Tarsal claws free. First and second abdominal segments elongate, third and fourth very short. Undersides densely squamose and moderately setose.

Type.—Cat. No. 18448, U. S. National Museum.

The species may possibly prove identical with the insufficiently described *Eustylus humilis* Erichson of Peru.

There is reason to believe that these weevils were hiding behind the involucres of the squares when placed in the rearing jars. Those weevils of this tribe of which the habits are known lay clusters of eggs in a matrix on foliage, folding the leaf over the cluster and glueing it tight. The larvæ hatch and enter the ground and feed on roots. Two species in related genera feed as adults very commonly on cotton foliage. It is therefore quite possible that this new weevil feeds on cotton foliage and breeds at the roots.

Subfamily TANYMECINÆ.

Tribe PANDELETEINI.

Genus MENETYPUS Kirsch.

Rostrum as long as head but a little narrower, quadrangular, flattened above, with sides vertical, and inconspicuous from above. Nasal plate distinctly outlined. Antennal scape slender, not reaching prothorax; first and second joints of funicle obconical, the first larger and a little longer, third to seventh globose, sixth slightly larger and seventh evidently larger than the others; club oval, acute, apparently triarticulate. Eyes moderate, convex. Prothorax subquadrate, with sides rounded, narrowed and truncate at base and apex, provided with ocular vibrissæ. Scutellum minute, triangular. Elytra oblong, hardly convex, truncate at base; humeri obtusely angulate; suture posteriorly subcarinate. Anterior legs much longer than the others, with femora strongly incrassate and tibiæ slightly curved and denticulate within. Front coxæ very narrowly separated. Trochanters large and distinct. Posterior tibiæ with open corbels. First segment of abdomen broadly rounded between coxæ, posteriorly slightly sinuate; second segment a little longer than the first and much longer than the third and fourth together.

This genus was considered by Champion as identical with *Pandeleteius* but there seem to be very good reasons for retaining it as a distinct genus.

Menetypus variegatus, new species.

(Pl. II, fig. 2.)

Described from six specimens from Piura, Peru, collected by Mr. C. H. T. Townsend and transmitted under his note number 22009 bearing the following data: "This comes numerously from cotton squares here, and I think breeds in them. I have often found it in the squares in the field."

Length, 3–3½ mm.; breadth, 1–1.25 mm.

Color of integument reddish piceous, darker above; antennæ yellowish brown; legs, especially tibiæ, darker yellowish brown. Body densely covered with thin, yellowish-gray, polygonal pavement scales, mottled in spots with white and brown scales. Elytra with dark lunule at middle inclosing a small white spot and with dark diagonal lines meeting suture at declivity. Head a little longer than beak, smooth, densely squamose, sparsely minutely setose; median groove on beak very indistinct; nasal plate triangular, sharply defined by a raised line notched at apex of beak; apex of beak clad with long setæ above and below; genæ emarginate; scrobes sharply defined, arcuate, descending to lower margin of beak beneath eyes; sides of beak perpendicular, concealing scrobes; eyes strongly convex, diagonally truncate beneath and behind. Antennal scape slender, clavate, reaching beyond middle of eye; funicle 7-jointed, the first longest, clavate, second about one-half as long, but longer than any of the following joints, which are moniliform, seventh broader than any preceding except the first; club elongate, first joint pedunculate at base, fourth joint small. Prothorax truncate at base and apex, slightly constricted at sides near base and apex; sides convex, widest before middle; surface slightly convex, densely squamose, sparsely setose, vestiture mottled gray to black, with pale lateral vittæ. Ocular vibrissæ long and curved. Scutellum minute, triangular. Elytra convex, with strong humeri; striæ distinct, punctures setigerous; vestiture densely squamose; intervals convex, each with a single row of setæ, sutural interval elevated at declivity, fourth to eighth intervals elevated to form tumidity at apical declivity; sides subparallel in male, inflated beyond middle in female. Anterior coxæ large, globose, narrowly separated; trochanters distinct, visible from beneath; femora very large, globosely inflated in male, less inflated in female; tibiæ mucronate, very elongate, slightly arcuate and denticulate within; tarsi long. Median coxæ narrowly separated; femora normal; tibiæ mutic. Posterior coxæ widely separated; femora normal; tibiæ mutic, with oblique cotyloid surface, corbels apical. First abdominal segment with broad, rounded intercoxal process; first suture arcuate, second segment longer than first or than third and fourth together; fifth segment roundingly emarginate at apex in male, convex and longer in female. Undersides densely squamose, finely pubescent.

Type.—Cat. No. 18449, U. S. National Museum.

This species differs from the type species, *hadromeroides* Kirsch of Colombia, by its smaller size and the color of its vestiture.

Nothing is known of the habits of the genus *Menetypus*, but of its nearest allies in the genus *Pandeleteius*, one species breeds in twigs of mistletoe and another in bark of trees. The weevil may quite possibly breed in the stems of the cotton, but it is a little doubtful whether it breeds in the squares. It undoubtedly seeks the nectar of the squares at least.

Family CURCULIONIDÆ.

Subfamily RYNCHÆNINÆ.

Tribe ANTHONOMINI.

Genus ANTHONOMUS Germar.

Anthonomus vestitus Boheman.

(Pl. II, fig. 3.)

By far the most important species in the series sent by Mr. Townsend is the Peruvian cotton-square weevil, already treated in our literature.[1] [2]

To aid inspection work the description given in the second paper quoted is here repeated.

Length, 2.5–4 mm.; breadth, 1.2–1.8 mm.

Female. Oblong ovate, convex, blackish piceous, rather closely clothed with whitish, elongate scales, which are more piliform beneath. Head convex, finely punctate, moderately squamose, front depressed, with median carina between eyes extending on beak to the point opposite the attachment of the antennæ. Beak slender, cylindrical, shining, finely punctate-rugulose, lightly squamose only at base, reddish piceous, lightly arcuate, slightly enlarged at tip, over one and one-half times as long as prothorax. Antennal scrobes directed at eyes; scape inserted slightly beyond the middle, slender, clavate, barely reaching the eye, reddish testaceous, funicle 7-jointed, reddish testaceous, first joint as long as the two following, clavate, second joint elongate, remaining joints moniliform; club ovate, blackish piceous, with first joint very distinct, pubescence fine. Prothorax transverse, apically truncate, basally bisinuate, base one-half wider than apex; sides convex, converging, impressed before apex; dorsum slightly convex, transversely impressed behind apex, densely but shallowly punctate, clad with elongate white scales. Scutellum broadly ogival, clad with very fine piliform scales. Elytra anteriorly subtruncate, about one-half wider than thorax, a little over twice as long as the thorax; sides almost parallel to posterior third, thence converging; surface convex, regularly punctate-striate; interstices subconvex, smooth; closely covered with scaly vestiture. Body beneath of same color as above, but more densely clothed with finer vestiture. Femora clavate, unidentate, basally flavo-testaceous, the remainder infuscated, squamose; tibiæ slender, flavo-testaceous, almost straight, angulate beneath before middle; tarsi elongate; claws elongate, cleft. Ventral segments subequal, the fifth slightly longer than the third or fourth. Pygidium covered.

The sexes are distinguished as follows: The female beak is slender, quite smooth, has very little pubescence at base, is regularly but slightly arcuate and has the scape inserted slightly beyond the middle; the pygidium is rarely visible, apically narrowly truncate and pubescent only at apex; the posterior tibiæ are almost straight, the angle opposite the femoral tooth being almost obsolete. The male beak is stouter, more strongly punctato-rugose, pubescent to the insertion of the antennæ; scape inserted almost at apical third; beak arcuate at point of insertion of antennæ; the pygidium is usually visible, broadly truncate at apex and pubescent except in a narrow strip at base; the posterior tibiæ are straight, but inner edge is regularly emarginate in the median third.

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[1] TOWNSEND, Charles H. T. The cotton-square weevil of Peru and its bearing on the boll-weevil problem in North America. Jour. Econ. Ent., v. 4, No. 2, p. 241–248, April 17, 1911.

[2] PIERCE, W. Dwight. Systematic notes and descriptions of some weevils of economic or biological importance. Proc. U. S. Nat. Mus., v. 42, No. 1889, p. 155–156, March 19, 1912.

Family CIONIDÆ.

Subfamily TYCHIINÆ.

Tribe TYCHIINI.

Genus SIBINIA Germar.

Sibinia peruana, new species.

(Text fig. 4.)

Described from one specimen obtained from a lot of squares at Piura, Peru, by C. H. T. Townsend and bearing his number 23009. Mr. Townsend believes that it breeds in squares.

Length, 1.4 mm.; breadth, 0.7 mm.

Color of integument reddish piceous; antennæ, femora, and tibiæ yellowish. Body densely covered with elongate ochreous scales, slightly paler beneath. Head small, rounded; beak about as long as prothorax, cylindrical, arcuate, squamose beyond middle, striately punctate, shining and almost smooth at tip; scrobes lateral, oblique, directed at lower corner of eyes; scape not reaching eye; funicle 6-jointed, the first elongate, stout, the others small, becoming wider toward club, the last almost indistinguishable from club except for its ring of bristles; club 4-jointed, ovate, finely pubescent. Eyes pointed beneath, depressed, closer together than width of beak. Prothorax truncate at apex, bisinuate at base, gradually rounded and narrowing from base to apex; surface punctate, rather densely clothed with elongate scales placed obliquely toward base and median line. Scutellum small, squamose. Elytra two and one-half times as long as prothorax, wider than prothorax at base; humeri rounded; striæ impressed, bearing a single row of elongate scales, interspaces with three longitudinal rows of elongate scales; elytra separately rounded at apex, exposing pygidium. Undersides almost as densely clad with longitudinal scales. Sides of second abdominal segment reaching to basal third of fourth segment. Tarsal claws deeply cleft.

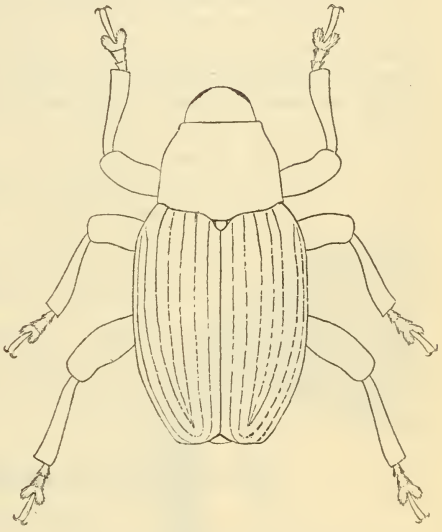

FIG. 4.—*Sibinia peruana*. (Original.)

Type.—Cat. No. 18450, U. S. National Museum.

This is the first species of *Sibinia* described from Peru and only the third from South America. The other two species, *melina* Faust and *valenciana* Faust, are from Venezuela and are probably nearly related to this species.

While it may not be universally true, those tychiine weevils of which anything is known as to the habits pupate in the ground. For this reason there is some cause to doubt whether the little weevil was

doing more than gathering nectar from the nectaries of the squares and was not noticed when these were placed in the rearing cage. It is more likely that it breeds in the fruit of a leguminous or cariophyllaceous plant.

Family OROBITIDÆ.

Subfamily OROBITINÆ.

Tribe TYLODINI.

Genus GASTEROCERCODES, new genus.

Rostrum moderately long, reaching mesocoxæ, widest at base, narrowest at middle; scrobes beginning slightly beyond middle, directed at lower half of eyes. Eyes large, elliptical, coarsely granulated, narrowly rounded above, separated by a distance less than the width of the beak at its narrowest point, reaching lower edge of beak and acuminate beneath; partly covered by postocular lobe when in repose. Antennal scape reaching eyes; funicle 7-jointed, the first four joints longer than broad, the first longest, each succeeding joint shorter than the preceding, but at the same time becoming gradually wider from second to seventh; club oval, 1-jointed. Scutellum minute. Prothorax truncate at apex above, with lateral lobes not very conspicuous; base bisinuate, angulately produced at middle; sides almost parallel to middle, thence strongly narrowed to apex, widest just in front of middle; surface deeply pitted, sparsely squamose. Elytra wider than thorax, humeri obtuse; striæ impressed, punctate, 10-striate, the tenth striæ reaching only as far as the metacoxæ; pubescence sparse. Pectoral canal deep, ending in a nestlike pocket of the mesosternum, which is short; metasternum extending forward between the mesocoxæ; metepisternum distinct and moderately wide. Intercoxal process of abdomen broad, subogival; abdominal sutures straight; the three middle segments subequal. Femora canaliculate beneath, mutic; tibiæ unguiculate; tarsal claws simple.

This genus is nearly allied to *Gasterocercus*, *Homoeostethus*, *Metriophilus*, and *Bothrobatys*, but differs from all in several respects.

Under high power microscopes the club does not show any indications of sutures.

Gasterocercodes gossypii, new species.

(Pl. I, figs. 2, 3.)

Described from nine specimens from cotton stalks collected by Mr. C. H. T. Townsend at Piura, Peru, and bearing the number "9."

Length, 3.2 mm.; breadth, 1.6 mm.

Color of integument varying in individuals from reddish to dark piceous; club lighter reddish or yellow; pubescence sparse, consisting of elongate pale setiform scales, giving a bristling appearance. Head rounded, coarsely deeply punctured, with intermediate surface minutely granulate, punctures bearing each a tiny seta. Median line of head and beak continuous; beak moderately arcuate, coarsely rugosely punctate, sulcate with smooth median line, much coarser in male than female; the elongate scales border the upper edge of the eye and extend the length of the beak, arising from the punctures. The eyes are depressed, very coarsely granulate, black, only half concealed by the postocular lobe of the prothorax. Antennæ with very few fine hairs on funicle, scape glabrous, club densely pubescent, minutely punctate.

Prothorax deeply, coarsely pitted with red setigerous punctures, median line smooth from middle to apex only. Scutellum minute, elongate. Elytral striæ impressed, punctures distant and minutely setose; intervals moderately convex, irregularly, punctate, with elongate scales. Tibiæ strongly unguiculate. Under sides coarsely, deeply, moderately closely punctate, with finer setæ. Last abdominal segment of male truncate, of female rounded.

Type.—Cat. No. 18451, U. S. National Museum.

This species is undoubtedly a serious enemy of cotton.

Family CEUTORHYNCHIDÆ.

Subfamily EURHININÆ.

Tribe EURHININI.

Genus GERAEUS Pascoe.

Geraeus perscitus Herbst.

(Text figs. 5 and 6.)

Length, 2.5–3.2 mm.; breadth, 1.2–1.6 mm.

Elliptic, flattened above, black; densely clothed with small brown scales, with a few scattered white scales intermixed; the sides of the prothorax broadly rounded, a

FIG. 5.—*Geraeus perscitus:* Female. (Original.)

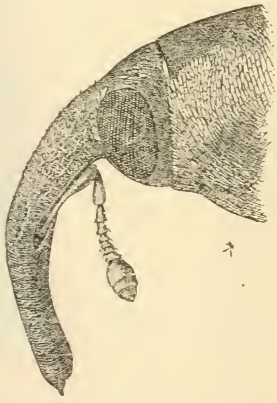

FIG. 6.—*Geraeus perscitus:* Side view of head of female. (Original.).

spot on the humeri, another on each side of the scutellum, and the base of the suture ochreous or whitish; the vestiture of the under surface ochreous. Head densely punctate; rostrum stout, strongly arcuate, a little longer than the head and prothorax, rugulosely punctate, the apical half much smoother in the female; the antennæ inserted at about the middle, the antennal club ovate. Prothorax transverse, feebly constricted in front, the sides arcuately converging from the base; densely, very finely punctate. Elytra subtriangular, finely punctate-striate, the interstices densely punctate. Beneath densely, finely punctate. Anterior coxæ separated by about one-half their own width. Legs short.

Male prosternum armed with two short spines, and also excavate between them; anterior tibiæ feebly unguiculate; first ventral segment broadly depressed down the middle. (Description after Champion.)

Two females and a male of this species are at hand from Mr. Townsend under his number 21009 from Piura, Peru, with the note, "Issued from one lot of small new bolls. I think it must breed in them."

Absolutely nothing has ever been recorded as to the food habits or biology of this species, although it is distributed from Nebraska and Kansas to Peru. Specimens have been examined from Nebraska and Central America and do not differ in any respect from the Peruvian specimens. Only two records have ever been made which indicate the breeding habits of this genus, and in both of these cases the weevils were reared from graminaceous stems. Many species of the genus are attracted in great numbers to the cotton nectaries and some of them may yet be found to breed in cotton.

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