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XIV
EXPEDITION TO GUADALUPE ISLAND, MEXICO,
IN 1922¹

THE COLEOPTERA

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This report covers the Coleoptera taken by the expedition of the California Academy of Sciences to Guadalupe and other islands off the west coast of Lower California in July and August, 1922. This expedition was made possible through the courtesy of the Mexican Government, which placed its fisheries patrol boat *Tecate* at the services of the Academy and the San Diego Society of Natural History and collaborated with those institutions in the work of the expedition. No entomologist accompanied the party, but a very good series of insects was secured through the efforts of Dr. G. Dallas Hanna and Mr. Joseph R. Slevin, who devoted as much time to this work as they could spare from their other duties. The fact that 14 new species and a good series of other rare beetles were taken fully justifies the effort made.

¹This paper is No. 3 of the Tecate expedition. No. 1, the Narrative, gives a complete itinerary. See this volume, pp. 217-275.

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LIST OF THE SPECIES TAKEN

1. *Cicindela latisignata* Lec.

One female at San Quintin, July 19, by Dr. Hanna. The legs and propleura rather more coppery than usual.

2. *Cicindela hæmorrhagica* Lec.

A series of nine specimens taken at San Quintin, July 19, Magdalena Bay July 26, and Cedros Island August 7, by Dr. Hanna.

3. *Cicindela sigmoidea* Lec.

Nine specimens were secured at San Quintin, July 19, by Dr. Hanna.

4. *Calosoma semilæve* Lec.

Two good specimens and one badly damaged specimen were collected at San Quintin, July 20, and on Guadalupe Island, July 13 and 15, by Dr. Hanna.

5. *Celia californica* Dej.

A moderate series was taken on Guadalupe Island, July 13 and 15, by Dr. Hanna.

6. *Amara insignis* Dej.

A small series obtained on Guadalupe Island, July 13 and 15, by Dr. Hanna.

7. *Calathus obscurus* Lec.

Three specimens were taken on the main land at San Quintin, Lower California, on July 19, by Dr. Hanna.

8. *Calathus guadalupensis* Casey

A fine series of this large species was taken on Guadalupe Island, July 13 and 15, by Dr. Hanna.

9. *Platynus (Leucagonum) guadalupense* Casey

In this species the body is more abbreviated than in *maculicollis* Dej. Three specimens. Guadalupe Island, July 15, by Dr. Hanna.

10. *Pinacodera semisulcata* Horn

A moderately large series of this species was secured on Asuncion Island, August 1, by Dr. Hanna.

11. *Pinacodera sulcipennis* Horn

Three specimens were taken by Dr. Hanna at San Quintin, July 19.

12. *Dicheirus piceus* Mén.

Guadalupe Island, July 14, N. E. Landing. One specimen secured by Dr. Hanna.

13. *Anisotarsus flebilis* Lec.

A single example of this species was found on Guadalupe Island, July 17, by Mr. Slevin.

14. *Creophilus villosus* Grav.

A single example of this common and widely distributed species was taken on Guadalupe Island, July 15, by Mr. Slevin.

15. *Trichochrous margaritæ* Blaisdell, new species

Form parallel to slightly oblong-ovate and moderately convex. Lustre dull. Color nigro-piceous; legs bright rufous; antennæ more or less

rufo-piceous distally, toward base rufous; first joint usually rufo-piceous; terminal two joints of the maxillary palpi blackish at apex; mouth parts more or less pale, labrum rufous; elytra at apex more or less obscurely reddish.

Pubescence slightly squamiform above, dense, short, recumbent, with no evidence of longer intermixed hairs; color ashy. Lateral pronotal and elytral fimbriæ moderately short, not very closely placed. Body beneath with finer, longer and more sparsely placed hairs.

Head relatively small, subtriangular, muzzle short; front scarcely impressed, punctures fine and not crowded. Eyes prominent. Antennæ moderately stout and extending length of terminal joint beyond pronotal base.

Pronotum about a fourth to a third wider than long; apex truncate in moderate circular arc; apical angles obtusely rounded; sides scarcely subangulately arcuate just behind middle at point of greatest width, thence feebly arcuate and converging to apex and base; base broadly arcuate with the angles broadly rounded; disk rather strongly and evenly convex; punctures fine and not dense.

Elytra about twice as long as wide, moderately and evenly convex; sides parallel, punctures fine and not dense. Abdomen finely and rather densely punctate.

Male: Narrower and more parallel. Fifth ventral truncato-sinuate. Female: Rather more oblong-ovate, and a little wider; fifth ventral rather subangulately arcuate at apex.

Length (types) 1.6-2.4 mm.; width .8-1 mm.

Type: Male, No. 1676, and *allotype*, female, No. 1677, Mus. Calif. Acad. Sci., collected by Dr. G. D. Hanna, July 29, 1922, on **Santa Margarita Island**. Paratypes in the collection of the Academy and in that of the author.

According to Casey's table of species, *margaritæ* falls near *innocens* Casey and *apicalis* Casey. *Innocens* is more elongate with less dense and pale fulvous pubescence. In *apicalis* the pronotum is transversely oval and the body stouter, with the elytra more widely testaceous at apex. A series of 15 specimens has been studied.

16. *Necrobia rufipes* De G.

One specimen of this cosmopolitan species taken on Guadalupe Island, July 11, by Dr. Hanna.

17. *Nemognatha insularis* Blaisdell, new species

Form elongate. Color fulvous throughout, except the antennæ, tips of femora, tibiæ and tarsi, which are deep black. Surface sparsely clothed with short and nearly erect black hairs, those of the under parts longer.

Head finely and rather thickly punctate; eyes oblong-oval, slightly sinuate anteriorly; maxillæ slender, moderately short, attaining base of metasternum when the head is flexed against the prosternum; antennæ extending to about middle of elytra.

Pronotum subquadrate, slightly widest in anterior third, angles rounded; apex rather arcuate, feebly sinuate in middle third; sides feebly arcuate, slightly convergent posteriorly; base arcuate; disc moderately and quite evenly convex, very finely and not densely punctate. Elytra finely and not very closely punctate. Spurs of the metatibiæ, equal and slender.

Male: Abdomen with sparsely placed and rather long black hairs; fourth and fifth segments with median tufts of pale hairs; sixth segment apparently impressed and deeply emarginate, emargination triangular and about twice as deep as wide at base.

Length (types) 7.5-9 mm.; width 2-2.4 mm.

Insularis approaches nearest to an unnamed Sierran species. It should follow *scutellaris* Lec. in our lists.

Type: Male, No. 1678, and *allotype*, female, No. 1679, Mus. Calif. Acad. Sci., collected by Dr. G. D. Hanna, August 4, 1922, at Bernstein's Spring, on Cedros Island. *Paratype*, one male in collection of the author.

18. *Buprestis aurulenta* L.

One specimen taken on Guadalupe Island, July 15, by Dr. Hanna.

19. *Agrilus blandus* Horn

One specimen taken on Cedros Island by Dr. Hanna.

20. *Dermestes vulpinus* Fab.

A moderate series was taken by Dr. Hanna at the following places: Asuncion Island, August 1; San Roque Island, August 2; Abrejos Point, July 31.

21. *Rhagodera laticeps* Blaisdell, new species

Form elongate, a little more than three times as long as wide, slightly wider posteriorly and moderately convex. Color nigro-piceous and usually more or less covered by a grayish coating.

Head nearly quadrate, slightly dilated anteriorly and coarsely punctate; front with or without impressions, when distinct noticeable along the frontal suture, on vertex and broadly and feebly within the eyes; superciliary ridge acute but not raised above the eyes as in *costata*; sides of front obliquely emarginate at oblique suture.

Pronotum broader than long, sides arcuate anteriorly, becoming broadly sinuate, convergent, straight or parallel to base, where the angles are subrectangular and slightly prominent posteriorly; sides feebly denticulate; disk strongly bicostate, costæ scarcely arcuate and parallel.

Elytra oblong, slightly widest behind; humeri subrectangular; sutural, marginal and the discal costæ entire and subacutely elevated; intervals with two rows of large, coarse, but not strongly impressed punctures. Body clothed with short scale-like hairs.

Length (type) 7.5 mm.; width 2.4 mm.

Type: Female, No. 1680, Mus. Calif. Acad. Sci., collected by Hanna and Slevin, August 13, 1922, on **San Benito Island**. *Paratypes*, 12 females in the Academy collection and in that of the author.

R. laticeps varies in size just as *tuberculatus* does; it is no larger and is distinct from both that species and *costatus*. Horn's description of *costatus* is too meager and unsatisfactory; he states that it is more depressed than *tuberculatus*, with all the costæ more prominent and with deeper interstitial punctures. This is not so with *laticeps*, for the costæ and interstitial punctures are less strongly marked, the elytra are widest behind the middle; the basal angles of the pronotum are really a little more than rectangular, but I do not consider them acute and posteriorly produced as Horn states of *costatus*.

R. laticeps is much less rough and less strongly sculptured than *tuberculatus*. From Horn's description I drew the inference that *costatus* is as strongly or more strongly sculptured than *tuberculatus*.

22. *Melanophthalma distinguenda* Com.

Four specimens, all taken at N. E. Landing on Guadalupe Island, July 11, by Hanna and Slevin.

23. *Scymnus guadalupensis* Blaisdell, new species

Form moderately broadly oval, slightly narrowed anteriorly. Abdominal post-coxal arc normal, not quite attaining the apical margin of first segment, arcuate throughout, curving forward externally and attaining the basal margin of the segment. Prosternum rather wide and feebly convex between the coxæ; carinæ feeble and converging slightly anteriorly, entire, intervening surface glabrous. Body bicolored, pale above and somewhat nubilate. Pubescence sparse, short, pale flavate in color and irregularly directed. Color beneath deep black; legs rather dark luteo-flavate; head, pronotum and elytra, more or less castaneous.

Head piceo-castaneous, front plane, finely and sparsely punctate.

Pronotum transverse, sides discontinuous with those of the elytra, feebly arcuate and parallel; base lobed at middle third, thence obliquely and very feebly arcuate; disk blackish in central and basal two-thirds and narrowly so along the apical margin behind the head, punctures sparse and slightly coarse.

Elytra narrowly black on the sutural margins, and very indefinitely clouded on each elytron near the base; punctures scarcely coarse and sparsely placed, finer along the suture. Scutellum black. Beneath densely and rather coarsely punctate, including the post-coxal plate.

Length 2 mm.; width 1.5 mm.

Type: No. 1681, Mus. Calif. Acad. Sci., collected by Mr. Slevin, July 17, 1922, at the **South Anchorage, Guadalupe Island.**

Fall, in his "List of the Coleoptera of the Southern California Islands," does not mention a single species of *Scymnus* as having been taken on Guadalupe Island. The single specimen at hand is well preserved and surely does not agree with anything mentioned by Casey in his "Revision of the American Coccinellidæ, nor apparently with any species given in the *Biologia*.

S. guadalupensis resembles *nebulosus* at first sight. Its color is darker, the post-coxal lines are complete, the prosternum is less convex and the carinæ feeble and more widely separated, with the intervening surface glabrous. In *nebulosus* the post-coxal lines are incomplete, the prosternum more convex, carinæ stronger and more evidently converging anteriorly with the intervening space narrower.

24. *Coccinella californica* Mann.

Nineteen specimens. Guadalupe Island, July 11-15, collected by Hanna and Slevin.

25. *Exochomus fasciatus* Casey

One specimen was secured at each of the following places: San Quintin, July 19; Natividad Island, August 3; Santa Margarita Island, July 29; all by Dr. Hanna.

26. *Cistelid*, undetermined species

27. *Cryptadius inflatus* Lec.

Seven specimens, Natividad Island, August 3; Asuncion Island; Angulo Rock, August 1; San Roque Island, August 2; secured by Hanna and Slevin.

28. *Stibia williamsi* Blaisdell, new species

Form ovate, about twice as long as wide, elytra somewhat inflated, strongly convex. Color dark nigro-piceous; legs and antennæ slightly rufo-piceous; surface shining and glabrous, head and pronotum slightly duller.

Head rather coarsely and confluent punctate; deflexed epistomal lobe triangular, line forming the upper margin of the deflexed portion not strong and, as usual, continuous with the sides of the front when viewed from above; mandibular tooth subapical. Antennæ long and slender, tenth joint attaining pronotal base.

Pronotum transverse and moderately convex; apex truncate in moderate circular arc; apical angles rectangular and subacute; sides broadly arcuate, slightly straighter posteriorly than anteriorly, margin acute but not noticeably beaded; basal angles obtuse and distinct; base slightly sinuate laterally; disk densely but not very coarsely, and more or less confluent, punctate; punctures rather discrete along the lateral margin.

Elytra oval, about a third longer than wide, somewhat inflated; disk with nine discal series of moderately strong punctures and a short scutellar row which is more or less confused and indistinct; the series becoming obsolete on the apical declivity before the apex; intervals with few extremely fine punctules. Body beneath strongly and coarsely punctate on the metasternum, punctures slightly finer on the prosternum, still

finer on the abdomen toward base, and distinctly fine on last three segments. Legs moderate in length, finely and rather evenly punctate.

Male: Usually a little smaller than the opposite sex; elytra less broadly oval, abdomen less convex.

Length (types) 8.5-9.5 mm.; width 4-4.5 mm.

Type: Female, No. 1682, and *allotype*, male, No. 1683, Mus. Calif. Acad. Sci., collected by Hanna and Slevin, August 13, 1922, on **Middle San Benito Island**. *Paratypes*, same data and from East and West San Benito Islands, August 12, 13, 1922. 106 specimens studied.

In *S. puncticollis* the elytral series of coarse punctures are entire and attain the apex. In *williamsi* the series become obsolete on the apical declivity as in *Triorophus*. In *hannai* the form is narrower in both sexes and not in the least inflated, punctuation of head and pronotum coarser and more evidently coalescent; punctuation of abdomen stronger. *S. sparsa* is more polished, the pronotal punctures discrete and well separated and basal angles of pronotum very small and acute. *S. opaca* is very different in its dull surface and convex elytral intervals.

29. *Stibia hannai* Blaisdell, new species

Form elongate suboval, elytra not inflated and strongly convex. Color nigro-piceous; legs and antennæ rufo-piceous; luster shining, head and pronotum slightly duller, surface glabrous.

Head coarsely and confluent punctate; deflexed epistomal lobe obtusely triangular, line forming upper limit of deflexed portion continuous with sides of front, not strong, but more so than in *williamsi*; surface impressed behind the raised frontal line. Antennæ slender, extending to beyond the pronotal base.

Pronotum transverse, widest before the middle; apex truncate; apical angles acutely rectangular; sides broadly arcuate, straighter behind and converging to the base, margin acute; base slightly arcuate at middle and feebly sinuate laterally; basal angles obtuse and distinct; disk quite coarsely, densely, and more or less confluent punctate, slightly and narrowly impressed along lateral edge, where the surface is shining and glabrous with the punctures finer and discrete.

Elytra oval, about twice as long as wide, sides subparallel; base equal to pronotal base, humeri obtuse and distinct; sides broadly arcuate to apex, the latter rather narrowly rounded; disk with unimpressed striæ

of rather large and closely placed punctures which become more or less obsolete before attaining the apex; intervals obsoletely punctulate.

Abdomen rather coarsely and not closely punctate on first three segments, punctures finer on fourth and fifth segments. Sterna and side pieces coarsely and strongly punctate. Legs moderately and somewhat finely, densely punctured.

Male: Usually smaller and rather less elongate. Female: Larger and rather more elongate. Elytra similar in the two sexes.

Length (types) 7-8 mm.; width 2.5-3 mm.

Type: Female, No. 1684, and *allotype*, male, No. 1685, Mus. Calif. Acad. Sci., collected by Hanna and Slevin, August 1, 1922, on **Angulo Rock, Asuncion Island**. *Paratypes*, same data and Natividad Island, August 3, 1922, in collection of the Academy and in that of the author. 46 specimens studied.

S. hannai differs distinctly from *williamsi* in its narrower and more elongate form, and coarser punctuation of head and pronotum; elytral striæ less abbreviated on apical declivity than in *williamsi*. Other differential considerations are given under the latter species.

30. *Centrioptera spiculifera* Lec.

This species occurs on Santa Margarita Island, where a single specimen was obtained by Hanna and Slevin July 29.

31. *Centrioptera pectoralis* Blais.

One specimen taken at Grand Cañon, Cedros Island, August 7, by Hanna and Slevin.

32. *Argoporis ebenina* Horn

San Benito Island. Four specimens were collected on August 13, by Hanna and Slevin.

33. *Argoporis impressa* Blaisdell, new species

Form elongate oblong-oval, subparallel and moderately convex. Color black; legs and antennæ concolorous, dark rufous or lighter, antennæ frequently somewhat darker; luster dull and feebly shining.

Head very finely and rather densely punctate, sides not broadly reflexed; surface depressed along frontal suture, front feebly convex; epistoma feebly and evenly convex, apex slightly arcuate, with a very small emargination at middle, on each side of which is a feeble tumescence. Antennæ short, moderately robust and slightly incrassate, joints seven to 10 transverse.

Pronotum subquadrate, a little wider than long; apex feebly arcuate, apical angles obtusely rounded; sides broadly arcuate, very gradually convergent to base, the latter transverse and rather broadly beaded laterally; disk very minutely and subobsoletely punctulate, moderately convex and more or less arcuately declivous antero-laterally.

Elytra oblong-oval, two and a half times longer than pronotum; base equal to pronotal base, humeri minutely prominent; sides broadly arcuate and parallel, arcuately convergent posteriorly to the rather broadly rounded apex; disk with feebly impressed striæ of rather coarse punctures, the latter somewhat strongly impressed; intervals flat or slightly convex, extremely minutely punctulate.

Legs rather slender, finely punctulate. Abdomen finely punctulate and more or less rugulose.

Male: Usually a little larger than female. Middle of first abdominal segment with a small tubercle, the latter slightly raised and rounded, surrounding surface not noticeably more punctate. Posterior femora with a moderately slender acute tooth, about three times as long as wide at middle, edges very finely denticulate, especially posteriorly. Female usually smaller than male. Edges of tibial groove of posterior femora, finely denticulate in distal half.

Length (types) 13-12 mm.; width 4.2-3.9 mm.

Type: Male, No. 1686, and *allotype*, female, No. 1687, Mus. Calif. Acad. Sci., collected by Hanna and Slevin, August 3, 1922, on **Natividad Island**. *Paratypes*, same data and from Angulo Rock, Asuncion Island, August 1, and San Roque Island, August 2, 1922. About 38 specimens studied.

The males of the several species present differential characters as follows: *A. inconstans* has a truncate epistomal apex and rufous legs, the femoral teeth are long; in *æqualis* the femoral teeth are truncate at tip and the epistomal apex arcuate; *cbenina* has black legs (sometimes rufous), the epistomal apex truncate and the elytra more smoothly sculptured, *nitida* has three equidistant teeth on hind femur, while in *costipennis* the elytra are sulcate and the femoral teeth are large, acute, with finely denticulate edges; *alutacea* has the teeth bifid and the edges finely denticulate, while *bicolor* has two small, acute and exactly equal teeth which are widely separated.

34. *Cerenopus concolor* Lec.

A single specimen was found at Bernstein's Spring, on Cedros Island, August 4, by Dr. Hanna.

35. *Eleodes pygmæa* Blais.

San Quintin, Lower California, one example, July 19, Dr. Hanna, collector.

36. *Eleodes insularis* Linell

Two females of this species were found at Grand Cañon, Cedros Island, August 7, by Hanna and Slevin.

37. *Eleodes militaris* Horn

Four specimens, Grand Cañon, Cedros Island, August 7, by Hanna and Slevin.

38. *Eleodes adumbrata* Blaisdell, new species

Form elongate, subfusiform oval to ovate, moderately convex, scarcely inflated. Color deep black, luster dull, feebly shining.

Head moderate, slightly transverse before the post-ocular line; front slightly convex, finely and irregularly punctate, punctures may be sparse along median line; sides straight and convergent in front of eyes, epistomal apex transverse, scarcely sinuate, angles obtuse, frontal suture evident or obsolete. Eyes moderate in size, slightly more prominent than side of front at anterior canthi. Antennæ slender, last three joints about as wide as long, scarcely wider than the preceding joints which are longer than wide; fourth joint equal in length to fifth and sixth taken together.

Pronotum about a third wider than long, widest at middle; apex arcuate-truncate between the acute and moderately anteriorly prominent apical angles; sides quite evenly and broadly arcuate from apex to base, with a very feeble tendency to become sinuate near the angles, marginal bead fine; base broadly arcuate and about equal to apex; basal angles obtuse and not in the least prominent; disk rather strongly and evenly convex from side to side; rather strongly declivous at the apical angles where the surface of the angles is slightly impressed; extremely finely to sub-obsolete punctate.

Elytra oval, obtusely pointed behind, about a third longer than wide; base broadly and feebly emarginate, adapted to and equal to the pronotal base; humeri obtuse, angle distinct but not in the least prominent; sides broadly arcuate becoming somewhat straighter and oblique in apical third to apex; disk moderately convex on dorsum, more strongly and rather broadly rounded laterally, finely punctate; punctures equal; strial series more or less distinct; interstitial punctures sparse and irregular; intervals more or less convex giving a feebly costate appearance; arcuately and rather gradually declivous posteriorly.

Abdomen finely and sparsely punctate, more or less rugulose; punctures denser on fifth segment, each with a brownish seta, the latter dense on and about the apical margin. Legs moderately long, relatively slender, closely and finely punctate, each puncture with a small brownish seta; posterior tibiae slightly arcuate; anterior femora armed in both sexes; inner edge of the tibial groove slightly explanate with tooth at about apical fourth, thence sinuate to apex.

Male: Narrower and subfusiform-oval. Abdomen on same plane as sterna, moderately convex, flattened at middle of first three segments, more or less impressed in median line; anterior tarsal grooves open. Female broader and more ovate; abdomen more strongly and evenly convex.

Length (types) 24-22.0 mm.; width 8.5-9 mm.

Type: Female, No. 1688, and *allotype*, male, No. 1689, Mus. Calif. Acad. Sci., collected by Hanna and Slevin, August 13, 1922, on **Middle San Benito Island**. *Paratypes*, same data and from East and West San Benito Islands, and on Asuncion Island, August 1, 1922, in collection of the California Academy of Sciences and in that of the author; 17 specimens studied.

E. adumbrata belongs to the *eschsoltzii* group of the subgenus *Eleodes* and should follow *inflata* in our lists. It differs from all others of the group by the fine, equal elytral punctuation; in the typical form, the elytra are subcostate.

39. *Eleodes discincta* Blaisdell, new species

This species is closely related to *adumbrata*, but differs mainly in the flat elytral intervals; strial punctures usually slightly larger than the interstitial, and never as coarse as in *luæ* or *inflata*. Otherwise it is similar to *adumbrata*. It also belongs to the *eschsoltzii* group and should follow *adumbrata* in our lists. It also presents greater variation in size

and the males are markedly elongate, somewhat resembling the same sex in *longicollis* and *gigantea*.

Length (types) 25 mm.; width 9-10 mm. The largest and most elongate male from Asuncion Island, measures 32.5 mm. in length and 9 mm. in width; largest and most robust female from Santa Margarita Island, measures 33 mm. in length and 12 mm. in width.

Type: Female, No. 1690, and *allotype*, male, No. 1691, Mus. Calif. Acad. Sci., collected by Dr. G. D. Hanna, August 3, 1922, on **Natividad Island**. *Paratypes*, same data, and on Angulo Rock, Asuncion Island, Cedros Island and on Santa Margarita Island, July 29, 1922.

E. discincta occurs also on the mainland at San Quintin if two females in the author's collection are correctly labelled. I believe these specimens were taken on a former expedition sent out by the California Academy of Sciences to the Galapagos Islands in 1905-6, and were collected by Mr. F. X. Williams.

40. *Eleodes inepta* Blaisdell, new species

Form elongate, subfusiform oval, about three times as long as wide, moderately convex. Color deep black, very dull in luster and alutaceous.

Head rather small, short before the post-ocular line; front convex, finely, sparsely and irregularly punctate, each puncture with a small ferruginous hair; sides of the front feebly arcuate and convergent anteriorly, apex of the epistoma truncate and the angles obtuse and somewhat rounded. Eyes small. Antennæ slender, joints less elongate than in *armata* and less stout than in *militaris*, not in the least incrassate.

Pronotum quadrate, widest at middle; apex arcuate between the angles, which are acute and equilaterally triangular; sides evenly and broadly arcuate from apex to base, the latter broadly and, feebly arcuate; basal angles obtuse and distinct; disk evenly and quite strongly convex, laterally noticeably declivous, very minutely and not closely punctulate.

Elytra elongate, base feebly emarginate, equal to and adapted to the pronotal base; humeri obtuse, distinct and not in the least prominent; sides broadly and evenly arcuate, obliquely convergent to apex in rather more than apical third, apex quite narrowly rounded; disk rather more than moderately convex on the dorsum, a little more strongly and broadly rounded laterally, punctures fine, equal in size, rather widely spaced in unimpressed and feeble striæ, the interstitial punctures forming a single more widely spaced series.

Abdomen moderately convex, slightly flattened along the middle third but not impressed on the first three segments in the type; apical margin

of the fifth ventral segment thickly set with short ferruginous setæ. Legs relatively long, moderately slender; all femora armed; hind tibiæ arcuate in basal two-thirds, thence straight and thickened to apex. Tarsi rather long; plantar grooves of the front tarsi widely open.

Length 23 mm.; width 7.6 mm.

Type: Male, No. 1692, Mus. Calif. Acad. Sci., collected by Hanna and Slevin, August 1, 1922, on **Angulo Rock, Asuncion Island.**

E. inepta is described from a unique. It is sufficiently distinct from all other members of the *armata* group. From the standpoint of analogy, it is expected that *inepta* will vary as regards the size and sculpturing of individuals. It is to follow *armata* in our lists.

41. *Eleodes morbosa* Blaisdell, new species

Form suboblong-ovate to ovate, about twice as long as wide, resembling certain forms of *omissa* of the subgenus *Melaneleodes*. Color black, somewhat piceous, especially the appendages; luster moderately shining, head and pronotum somewhat alutaceous.

Head relatively moderate in size; front slightly convex, sparsely and finely punctate, frontal suture more or less evident, surface slightly impressed within the supra-antennal convexities where the punctures are somewhat denser. Eyes and posterior canthi a little more prominent than the sides of the front, which are convergent anteriorly, epistomal apex truncate, or very feebly sinuate. Antennæ comparatively slender and moderate in length, terminal three joints slightly incrassate and slightly transverse; joints four to eight inclusive a little longer than wide, the eighth being subtriangular.

Pronotum about a fifth or a fourth wider than long, widest slightly in front of the middle; apex slightly and broadly emarginate between the anterior angles, which are subacutely rectangular and slightly prominent anteriorly; sides broadly and rather strongly arcuate from apex to base, but less so behind the middle, marginal bead fine; base broadly and feebly arcuate; basal angles obtuse, not rounded and deflexed; disk moderately strongly convex, feebly and narrowly impressed along the sides within the bead, evenly declivous antero-laterally, punctures very fine and rather widely separated, evenly distributed.

Elytra oval, base truncate and equal to the pronotal base, humeri obtuse but distinct; sides evenly and broadly arcuate, somewhat oblique to apex in apical third, apex quite narrowly rounded; disk rather strongly convex,

slightly less so on the dorsum, rather arcuately declivous posteriorly; punctures moderately small, closely placed in unimpressed striæ, and more widely spaced interstitial series; punctures becoming more or less confused laterally and on the apex where they are finely but distinctly muricate.

Abdomen rather finely and not densely punctate. Legs moderate and relatively short, rather densely sculptured and sparsely clothed with ferruginous setæ. All of the femora armed; tooth of the anterior femora small and acute, of the middle and posterior femora small and obtuse; all of the tibiæ slightly arcuate, especially in basal third.

Males: Narrower. Abdomen less convex and impressed along the middle of the first three segments. Plantar grooves open on all the tarsi. Elytra somewhat more obliquely declivous posteriorly. Female: broader, abdomen more convex.

Length (types) 17-18.5 mm.; width 6.5-8 mm.

Type: Female, No. 1693, and *allotype*, male, No. 1694, Mus. Calif. Acad. Sci., collected by Hanna and Slevin, August 1, 1922, on **Angulo Rock, Asuncion Island**. *Paratypes*, same data and on San Roque Island, August 2, 1922. 157 specimens studied.

E. morbosa is a very unique type in the fauna of the western coast, as it has more of the facies of a *Melaneleodes* than a member of the *armata* group of the subgenus *Eleodes*. All of the femora are armed. It agrees with certain species of the Mexican fauna in these respects, but its true relation to the *armata* group cannot be determined until some of the Mexican species have been carefully studied, especially as regards the genitalia; it may have to be placed in a different section of the *armata* group.

42. *Megasattus erosus* Horn

One imperfect specimen was taken on Cedros Island at Bernstein's Spring, August 4, by Hanna and Slevin.

43. *Cœlotaxis punctulata* Horn

A series of 24 specimens of this species was picked up at N. E. Landing, Guadalupe Island, July 11-15, by Hanna and Slevin.

44. *Conibius guadalupensis* Casey

N. E. Landing, Guadalupe Island, July 11-14; Pine Ridge, July 15, Hanna and Slevin. 13 specimens.

45. *Tonibius sulcatus* Lec.

San Quintin, Lower California, July 19, Dr. Hanna. 2 examples.

46. *Tonibiastes costipennis* Horn

A single specimen was secured on Santa Margarita Island, July 29.

47. *Cœlocnemis slevini* Blaisdell, new species

Form elongate, rather strongly convex. Color deep black, shining; surface glabrous.

Head moderately large, widest between the antennæ, thence convergent and straight anteriorly to the epistomal apex, the latter truncate, angles obtuse and slightly rounded; front impunctate, with few vague impressions, frontal and oblique sutures more or less evident. Eyes not in the least prominent, just noticeably convex. Antennæ short, attaining about the basal third of the pronotum, slightly and gradually clavate, distal five joints compressed, eleventh widest.

Pronotum about a fourth or less wider than long, widest near the middle; apex truncate in rather moderate circular arc; apical angles quite broadly rounded into the sides, which are rather strongly and evenly arcuate before the middle, thence convergent and more or less broadly and rather feebly sinuate to the base, marginal bead very fine; base truncate and more or less obsoletely margined; basal angles obtuse to rectangular and perfectly distinct; disk moderately strongly convex, impunctate and sculptureless; rather more strongly declivous antero-laterally, more so postero-laterally in about basal fourth, where it appears slightly compressed.

Elytra oblong-oval, usually widest behind the middle, strongly convex, moderately less so and slightly depressed on the dorsum; base truncate, not wider than the pronotal base; scutellum small and triangular; humeri very obtuse and rounded; sides broadly and quite evenly arcuate, rather less so anteriorly, apex oval; disk rather obliquely and arcuately declivous posteriorly, with eight rows of unimpressed and fine punctures, which are rather unevenly spaced in the series; a ninth or marginal row is present against the margin throughout the length; series rather less evident on the apical declivity; intervals impunctate in the specimens at hand.

Body beneath obsoletely sculptured; abdomen somewhat rugulose. Legs moderately long; middle and posterior femora rather slender; obsoletely sculptured.

Male: Narrower; sides of the pronotum more broadly and evenly arcuate, not subangulate at middle; abdomen less convex and more strongly oblique to the sterna. Female: broader and more evidently widest behind the elytral middle; pronotal sides subangulate, rather more suddenly and broadly sinuate posteriorly; abdomen subhorizontal.

Length (types) 22.5-27 mm.; width 8.5-11 mm.

Type: Female, No. 1695, and *allotype*, male, No. 1696, Mus. Calif. Acad. Sci., collected by Hanna and Slevin, August 7, 1922, in **Grand Cañon, Cedros Island**. *Paratypes*, same data, in the collection of the Academy and in that of the author. Described from five specimens.

After much study and deliberation, by comparing the above small series with nearly a thousand specimens from all parts of the Pacific Coast, Nevada and Arizona, I came to the conclusion that *slevini* is a distinct species. It resembles *magna* more than any other; in the female, however, the pronotal sides are subangulate with the disk slightly depressed at that point. It is not closely related to *dilatocollis* or *obesa*.

48. *Cratidus rotundicollis* Horn

Five specimens of this rare species were taken on Cedros Island, August 7, and on Asuncion Island at Angulo Rock, August 1, by Hanna and Slevin.

49. *Amphidora tenebrosa* Horn

A single specimen was taken at San Quintin, Lower California, July 19, by Dr. Hanna.

50. *Helops guadalupensis* Casey

This fine species was secured on Guadalupe Island, July 15 and 17 at the South Anchorage, by Mr. Slevin.

51. *Helops benitensis* Blaisdell, new species

Form elongate oval, subparallel, about two and a half times longer than wide. Color black; legs and antennæ dark rufo-piceous; luster shining.

Head densely and deeply punctate, punctures moderately coarse and more or less confluent; sides convergent anteriorly, emarginate at the oblique suture; epistoma truncate at apex, surface impressed on the frontal suture and along the sides to the apical margin of the epistoma. Eyes not more prominent than the sides of the front. Antennæ slender, third joint about equal to combined length of fourth and fifth; joints 4 to 8 longer than wide, subequal in length; terminal four joints compressed and gradually incrassate.

Pronotum about as wide as long, widest at middle; apex slightly arcuate in moderate circular arc; sides broadly arcuate, rather more strongly so in middle third, marginal bead fine; angles obtuse; base subtruncate; disk not impressed, densely and evenly punctate, punctures moderately coarse and coalescing slightly.

Elytra oval, base slightly bi-marginate; scutellum very short and transverse, entering very slightly between the elytra; humeri obtuse and distinct; sides evenly and broadly arcuate, apex rather broadly rounded; disk striato-costate, intervals convex, especially on the apical declivity, strial punctures rather coarse, closely placed and rather deep, striæ not impressed; intervals very finely punctulate; no interstitial tubercles on sides or apex.

Propleura rather coarsely punctate, with more or less coalescence. Abdomen moderately convex, finely and rather sparsely punctate, each puncture with a fine recumbent hair. Legs slender and relatively short; anterior tarsi noticeably dilated and clothed beneath with pale hair densely placed; middle and posterior tarsi with similar hair but arranged along the margins and at apex of the joints.

Length 10 mm.; width 4 mm.

Type: No. 1697, Mus. Calif. Acad. Sci., collected by Hanna and Slevin, August 13, 1922, on **Middle Benito Island**.

Very distinct from any species of *Helops* known to me. At first there was some doubt as to whether or not it was a *Helops*. It answers to the generic test. The front is not as widely dilated as in other species and not or scarcely more prominent than the improminent eyes, covering base of mandibles as usual; clypeus short, coriaceous. The striato-subcostate elytra is rather unique.

52. *Catorama pusillum* Lec.

Two specimens of this small species were taken on Santa Margarita Island, July 29, by Dr. Hanna.

53. *Megasominus thersites* Lec.

One imperfect specimen and the elytra of another were picked up on Cedros Island, on August 4, by Hanna and Slevin.

54. *Ipochus insularis* Blaisdell, new species

Form elongate oblong-oval to slightly oblong-ovate, strongly convex. Color black to nigro-piceous and more or less shining. Pubescence abundant. Surface clothed throughout with erect, soft, pale, moderately long hairs that are very sparsely scattered; and coarser, recumbent, somewhat fulvous hairs; these latter densely but unevenly distributed, forming a pattern, particularly on the front and vertex of the head and peripheral parts of the pronotal disk, and a rather broad parasutural stripe on the apical declivity of each elytron, besides irregular and anastomosing patches on the disk, leaving a central oblong glabrous area across the suture in basal half. Antennæ densely clothed with a very fine appressed pile. Abdomen with moderately long hairs; distal half of femora clothed with pale fulvo-cinereous hairs with intermixed small black spots, tibiæ more or less densely invested with similar hairs and with tuft of fulvous hair on outer surface in apical third.

Head moderately convex, with few scattered punctures and a fine median impressed line; fronto-epistomal line transverse and rather prominent. Antennæ about as long as body.

Prothorax subglabrous, cylindrically convex and nearly as long as wide, base and apex truncate, sides moderately arcuate; surface with very small, closely placed punctures, and larger and sparsely placed asperities, especially on the sides and across the apex.

Elytra about twice as long as wide, or slightly less, and oblong-subcylindrical in form, more or less abruptly declivous posteriorly; disk with sparsely placed asperities. Body finely sculptured beneath. Legs moderate; femora moderately and gradually clavate, the anterior less so.

Male: Elongate oblong-oval and subcylindrical, elytra scarcely wider than the prothorax. Female: Elongate oblong-ovate, usually slightly flattened on the elytral disk; elytra somewhat widest behind middle and slightly wider than prothorax.

Length (types) 10.5 mm.; width 3.5-4.5 mm.

Type: Male, No. 1698, and *allotype*, female, No. 1699, Mus. Calif. Acad. Sci., collected by Hanna and Slevin, August 13, 1922, on **Middle San Benito Island**. *Paratypes*, same data, in collection of the Academy and in that of the author. Eight specimens.

I. insularis is quite distinct from *fasciatus* and its races. The most salient characters are its large size and distinct elytral asperities. The distribution of the elytral pubescence is distinctly different in pattern from that seen in *fasciatus*, where it forms transverse fasciæ.

55. *Estola sordida* Lec.

Bernstein's Spring, Cedros Island, August 4, collected by Slevin and Hanna.

56. *Ortholeptura insignis* Fall

One example of this fine species was found on Guadalupe Island, July 15, by Hanna and Slevin.

Plenaschopsis Blaisdell, new genus

This new genus differs from *Trigonoscuta* chiefly in having the corbels of the metatibiæ obscurely defined externally by spines, surface of corbel convex in its anterior half and covered with short, thick and obtuse spines or scales; sinuate posteriorly, with the outer angle prolonged and obtuse; corbels closed off from the articular cavity by a row of spines which are not closely placed; articular cavity not scaly as in *Trigonoscuta*. Genotype, *Plenaschopsis pilosisquama* Blaisdell, new species.

The following characters are common to both genera: Ocular lobes absent, antennal scrobes lateral and directed inferiorly; third joint of all the tarsi wider than second and deeply lobed; anterior tibiæ dilated at tip; antennal scape long, passing the eyes.

General form and appearance that of *Trigonoscuta*. The tribe *Trigonoscutini*, as defined by Pierce, must be revised so as to include the present genus. A tabular statement of the differences between the two genera may be given as follows:

Metatibial corbels closed.

Corbels concave; external angle not produced; articular cavities strongly cavernous and scaly.....*Trigonoscuta* Motsch.

Corbels convex anteriorly, feebly defined laterally, sinuate, with the external angle produced; articular cavities not deeply cavernous and not scaly.....*Plenaschopsis*, n.g.

57. *Plenaschopsis pilosisquama* Blaisdell, new species

Form oval, less elongate than *Trigonoscuta pilosa* Motsch., robust, slightly more narrowed anteriorly than posteriorly. Color black, legs nigro-piceous, tarsi slightly lighter; surface densely covered with cinereous and plumbeo-cinereous scales, scarcely variegated in the type and clothed with sparsely placed, nearly erect greyish hairs; scales of two kinds, one round or oval as in *T. pilosa*, the other oval and villous or covered with minute filaments so as to appear shaggy.

Head and rostrum as long as the pronotum. Rostrum suboblong, distinctly narrower than the head and separated from it by a fine transverse subangulate line; upper surface finely canaliculate, tip truncate; scrobes deep and arcuate, with the superior margin distinct to and passing near the lower margin of the eyes, the latter oval, slightly oblique. Antennæ moderately long; scape almost gradually clavate, passing beyond the eyes posteriorly; funicle seven-jointed, first three obconic, first and second elongate, first nearly three times as long as wide, second slightly more than twice as long as wide; third a little longer than wide; four to six as long as wide and subglobular; seventh larger and about as long as the sixth and twice as wide as long; club oval. Front finely canaliculate between the eyes.

Pronotum a little broader than long, narrower in front; sides strongly arcuate, subapical impression very feeble; apex arcuate, slightly sinuate at middle; disk strongly arcuate from side to side, and suddenly and very briefly declivous before the base in middle two fourths, rather coarsely and closely punctate.

Elytra broadly oval, rather less than a third longer than wide; scutellum small and triangular; humeri broadly rounded; sides broadly and rather moderately strongly arcuate; disk strongly convex, rather abruptly and arcuately declivous posteriorly, with rows of rather fine punctures, which are very slightly impressed.

Body beneath not densely scaly; third and fourth abdominal segments equal in length; hairs sparse and rather long; scales of the under surface nearly all shaggy as they are on sides of pronotal disk, and on sides, base and apex of the elytra, with a few similar ones above the eyes; elsewhere the scales are round or slightly oval. Legs not closely scaly, hairs quite long and flying.

Length 6.6 mm.; width 4 mm.

Type: Female, No. 1817, Mus. Calif. Acad. Sci., collected by Dr. Hanna, August 3, 1922, on **Natividad Island**.

In *pilosisquama* the peculiar shaggy scales, less widely open antennal scobes just before the eyes, antennal joints four to six subglobular, and the different corbels of the hind tibiæ will amply distinguish this species from *Trigonoscuta pilosa*, which it resembles in most all other characters. Described from the unique type.

